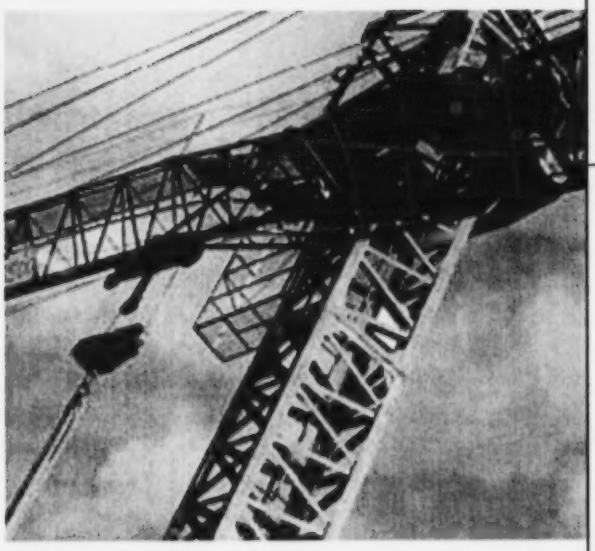

No Time to be Timid

Addressing Infrastructure Deficits in the Western Big Six

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WESTERN CITIES PROJECT

This research report is part of the Canada West Foundation's ***Western Cities Project,*** a multi-year research and public consultation initiative focused on identifying the policy challenges facing western Canada's largest cities, and best practices in resolving such policy challenges. Through the Canada West Foundation's emphasis on citizen engagement, the ***Western Cities Project*** promotes public awareness of the growing importance of cities to the economic, social, and cultural lives of western Canadians. The project, which began in 2000, includes the following research components:

- **Urban Water Management**
- **Urban Infrastructure**
- **Urban Finance**
- **Urban Regions**
- **Urban Growth and Affordable Housing**
- **Municipalities in Federalism**
- **Urban Arts and Culture**
- **Urban Aboriginal People**

To learn more about the ***Western Cities Project,*** please visit the Canada West Foundation web site (www.cwf.ca).

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BACKGROUND

In October 2003, Canada West Foundation released *A Capital Question: Infrastructure in Western Canada's Big Six*. This in-depth analysis of infrastructure in western Canada's six big cities reinforced the fact that municipal infrastructure has become a serious issue. In 2003, the six big western cities (Vancouver, Edmonton, Calgary, Saskatoon, Regina, and Winnipeg) reported a combined $564 million infrastructure deficit – the annual shortfall in funds for needed infrastructure investments. This is a conservative estimate.

NO TIME TO BE TIMID

A key objective of this study is to identify various alternatives for financing municipal infrastructure and closing infrastructure deficits. To do this, the study explores the drivers of the infrastructure problem, and then examines the ability of traditional financing options, innovative options, and systemic reform of municipal finance to address the issue. Traditional capital financing tools (e.g., property taxes, user fees, capital reserves, local improvement levies, developer charges, borrowing) do not offer a sustainable answer because they fail to address many of the key drivers, and may even reinforce some of the problems for which solutions are needed. Innovating with traditional options by employing them differently does offer potential, as does a renewed commitment to better asset management strategies. In the long-term, however, a more sustainable solution involves the pursuit of systemic municipal finance reform.

INNOVATING WITH CURRENT SOURCES OF FINANCING

- Property Tax: Lower or eliminate the education portion, earmark increases for specific infrastructure projects, use sunset clauses where taxes are eliminated after projects are completed, and devise policies to ensure tax revenues grow alongside the economy.
- Grants: Eliminate conditionality and cost-sharing, and link amounts to specific tax revenues through forms of tax-sharing.
- Improvement Levies: Use wherever possible and explore a range of frontage charges for items such as roadways.
- Developer Charges: Consider additional levies for "off-site" infrastructure and future maintenance, front-end development charges wherever possible, and charge differential levies to reflect the costs of providing infrastructure to different properties and locations.
- User Fees: Create new self-financing utilities or Special Operating Entities (SOEs) out of tax-based services, and charge differential user fees for non-citizens wherever possible.
- Borrowing: Realize that debt is a legitimate financing tool for infrastructure. Explore more avenues such as community and tax-exempt bonds, infrastructure banks, and a mechanism to employ the federal government's AAA bond rating. Employ the notion of "smart debt."

SYSTEMIC REFORM

- Focus on Core Responsibilities: Get back to the original purposes behind local government by pursuing disentanglement with other orders of government and funding top priorities first. Upload services that redistribute income or that produce negative spillovers.
- Accurately Price Services: Expand user fees to more services, begin charging individuals the full marginal costs of services they consume rather than the average cost, pursue property tax reform as a long-term objective so that the taxes paid more closely reflect the costs of servicing properties, and explore tolls to help finance roads and bridges.
- Competitive Service Delivery: Open municipal services to competition by allowing private and non-profit producers to compete with public producers to deliver municipal services in an effort to increase efficiency, improve services, and lower costs. Help public employees to formulate bids.
- Public-Private Partnerships: Relax the strong commitment to subsidizing services through taxes and invite private participation in infrastructure development.
- New Tax Tools: Substantially reduce property taxes and secure new taxing authority that provides better revenue-generating capacity, allows cities to recoup the costs of providing services to outsiders, and gives them the ability to capture a larger portion of the economic activity occurring in their boundaries.

The study provides valuable information on how western Canadians view some of these options. Generally speaking, westerners are somewhat wary of certain systemic reforms, and somewhat shy and skeptical of new approaches. To move the options forward, Canadians must become more aware of the close link between municipal infrastructure and their future prosperity, standard of living, and quality of life.

INTRODUCTION

In October 2003, Canada West Foundation released *A Capital Question: Infrastructure in Western Canada's Big Six* (Vander Ploeg 2003). This in-depth analysis of the infrastructure needs facing western Canada's six big cities reinforced the fact that urban infrastructure has become a serious issue. In the 2003 fiscal year, for example, the six big western Canadian cities (Vancouver, Edmonton, Calgary, Saskatoon, Regina, and Winnipeg) are reporting a combined $564 million infrastructure *deficit* – the annual shortfall in funds required for critical infrastructure investments. This is a conservative estimate. Further, most of the cities are reporting that these infrastructure deficits could rise substantially in the future.

In addition, estimates of the total municipal infrastructure *debt* in Canada – the backlog of required maintenance and replacement of existing infrastructure assets – could total almost $60 billion (Canadian Society of Civil Engineering 2002). The total infrastructure debt for all governments in Canada could be as high as $125 to $130 billion (FCM 1999; Mirza 2003). If corrective action is not taken to address the issue, some analysts contend that the required funds for the entire country's public infrastructure could reach as high as $400 billion by 2015-2020 (Comeau 2001; Mirza 2003).

There is almost universal consensus within the policy community that Canada, like other western industrialized countries, does indeed have an infrastructure debt. To be sure, there are widely diverging opinions on how large this debt might be. The earlier Canada West study attempted to set some boundaries for the magnitude of infrastructure deficits and debt by analyzing over forty years of public capital investment in Canada. The result of this analysis showed that public capital investment across all government sectors has fallen dramatically, and the estimates above are not completely without warrant.

The potential costs of failing to address the issue include higher operating costs for government and business, negative impacts on the environment, threats to public health and safety as well as other social costs, lost economic potential and productivity, and most important, the prospect of even higher capital costs in the future (Vander Ploeg 2003). Clearly, the issue is one that needs to be addressed. Given the potential magnitude of the problem and the costs of failing to act, this is no time to be timid.

PURPOSE OF THIS REPORT

The primary objective of this study is to identify and assess various alternatives for financing municipal infrastructure and closing the infrastructure deficits in western Canada's largest cities. The study will answer a number of questions:

- *Why have infrastructure deficits appeared?*
- *Do Canadians sense a problem? What is the current public opinion on potential solutions?*
- *What are the traditional sources of municipal capital financing, and what is their potential to close infrastructure deficits? Can these sources of capital financing be employed differently or more effectively?*
- *What other options need to be considered, how do they work, and what are their advantages and disadvantages? What are some of the barriers to implementing alternative financing sources? Is there a need for systemic reform in municipal financing?*

METHODOLOGY AND CAVEATS

To explore these questions, Canada West Foundation undertook an extensive literature review. Sources include federal, provincial, and municipal government reports, various national and provincial municipal association documents and research papers, articles and books authored by independent urban finance experts, infrastructure engineers, economists and other academics, and the recorded proceedings of various conferences. Statistical data included in the report come from annual financial reports of the various cities. Finally, the report also draws on previous Canada West Foundation research and public opinion polling.

The options chosen for this study are not all-inclusive. Building a "laundry list" of all available alternatives to finance urban infrastructure would produce a report so unwieldy that those with the most potential receive less play and even become lost. As such, the various options included for discussion depend on whether they have sufficient currency in the municipal community and among urban stakeholders, and whether they are employed in other jurisdictions, particularly the U.S. In other words, only those options that have appeared numerous times in the literature review can realistically be explored.

This study is intended to stimulate debate on the merits of various options to address municipal infrastructure and explore the barriers and opportunities of those options. But as discussed in the earlier Canada West study, the term infrastructure is not always well-defined and may differ between cities depending on the types of services delivered and the local definitions in play. In this study, we are concerned with the term infrastructure as it is employed by the cities themselves, which means the capital expenditures related to rehabilitating existing systems (but not necessarily routine maintenance) and making new investments for transportation (e.g., roadways, bridges, walkways, and transit), protection (e.g., fire, police, EMS, facilities and equipment), community (e.g., parks, recreation, cultural, and community services and amenities), general government (civic buildings, information technology, fleet), and utilities and environment (e.g., water supply, distribution, sanitary sewerage, storm drainage, flood control, and solid waste).

A number of the alternatives and approaches suggested in this discussion paper will elicit strong reactions, both positive and negative. This is intentional – it reflects a desire that the paper stimulate a vibrant, informed public discussion. While it is unreasonable to assume that each option will meet with unqualified support, at the same time, whenever an option is eliminated as undesirable or unworkable, the list of policy alternatives in the buffet necessarily narrows. *In other words, at least some of these new options must be made to work.* Failing that, the only alternative is the status quo – insufficient and crumbling infrastructure – and the costs that inevitably follow. Finally, it is important to realize that many of the options discussed here have been on the table for some time – they have been exhaustively discussed and debated. But the barriers to change are significant and progress is slow. Hopefully, this piece will help prompt forward momentum.

WHY INFRASTRUCTURE DEFICITS?

Exploring why municipal infrastructure deficits have appeared is a first step in the quest for possible solutions because options that fail to address the underlying drivers of the problem will not be sustainable in the long run. At least one reason for the problem is readily apparent – municipal infrastructure systems are simply taken for granted (National Guide to Sustainable Municipal Infrastructure 2002). For example, much of the infrastructure that supplies water is underground. Citizens expect water to flow from the tap, but they rarely think about the systems needed to bring it there. "Out of sight and out of mind" plays no small role here. But there are a number of other factors as well.

1. Growing Demands for Infrastructure

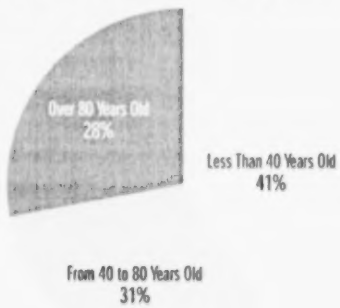
■ *Rapid and changing patterns of urban population growth.* The urbanization of Canada continues unabated, and nowhere is this more true than in western Canada. In fact, five of Canada's ten fastest growing CMAs over the last 30 years are in the West (Abbotsford, Calgary, Edmonton, Vancouver, and Saskatoon). In the short-term, rapid growth automatically drives the need for more infrastructure. However, it also carries a significant long-term implication in the form of a large future financial liability. For example, in the late 1970s and early 1980s, Calgary was booming, and the City borrowed heavily to meet the demand. At the same time, a good portion of the upfront infrastructure costs were carried by developers and the Province. Once completed, this infrastructure was turned over to the City. In the absence of a long-term strategy or anticipatory thinking on the future costs of maintaining, renewing, and eventually replacing the infrastructure, a large future liability is created. For cities like Calgary, the point is brought into sharper focus by yet another boom occurring right now.

An even bigger problem is how this growth is occurring. Much has been written about the devastating effects of urban sprawl and how it dramatically increases the cost of infrastructure. The irony is that while schools and other facilities in the inner cities close due to lack of usage, new facilities need to be constructed in the suburbs. Analysts contend that this pattern of underutilization of existing assets and the need for infrastructure extension will likely continue in the foreseeable future, bringing even more fiscal pressure to bear on local governments (Mirza 2003). In short, sprawl is causing some of the very problems for which solutions are desperately needed.

Even more troubling is the fact that a good portion of urban growth continues to occur in metro-adjacent areas – the urban and rural fringes surrounding Canada's large cities. This presents a particularly daunting challenge in that infrastructure has to be provided to a growing population that pays its property taxes elsewhere. In other words, some western cities are facing significant free-rider problems. Part of the economic rationale behind provincial capital grants was to help offset this negative externality. With capital grants significantly scaled back, this problem has landed squarely on local property taxpayers. However, if taxes are increased in an effort to provide more infrastructure, this could stimulate an even greater exodus toward the periphery, shrinking the tax base and requiring even more punitive taxation. It is hardly a solution. Rather, a vicious circle is created.

■ *Infrastructure ages naturally.* Much of Canada's public infrastructure was put in place between the end of World War II and the mid-1970s. During this period, public infrastructure was expanding and existing systems were being maintained at acceptable levels (Mirza 2003). Thirty and even fifty years ago, most public infrastructure systems were relatively new and required little maintenance. But infrastructure naturally ages – every system has a definitive lifespan, after which it begins to decay and lose functionality. By the turn of the century, many of these systems began moving to more costly stages of their natural life-cycle, with some components actually reaching the end of their serviceable life. In short, Canada is entering an era where a growing proportion of its public infrastructure is completing its first full life-cycle *(Figure 1)*.

FIGURE 1: Age of Public Infrastructure in Canada
(Includes all Public Infrastructure Across all Government Sectors)



SOURCE: The Canadian Society for Civil Engineering in a report entitled *Critical Condition: Canada's Infrastructure at the Crossroads 2002*. Note that the definition of infrastructure here is not entirely clear, although it includes the infrastructure owned by all orders of government.

Almost 30% of Canada's total public infrastructure is over 80 years old, and only 40% is under 40 years old. It has also been suggested that Canadians have used, on average, almost 80% of the useful life of all public infrastructure in the country (Canadian Society of Civil Engineering 2002). Thus, aging infrastructure is clearly one reason for the infrastructure deficits facing many cities. An aging public capital stock implies the need for more dollars because older infrastructure is more costly to maintain than new. It also implies the need for better asset management strategies. The natural aging process of infrastructure has been compounded by a lack of previous investment in maintenance and renewal. This "deferred maintenance" has accelerated the aging of infrastructure and its accompanying deterioration, and once deterioration sets in, it continues to compound almost exponentially. Along with escalating costs, the infrastructure becomes more difficult to satisfactorily repair and rehabilitate.

■ *Rising standards.* Standards have significantly changed over the years, particularly as they relate to protecting the health and safety of individuals and the environment. This has also affected infrastructure. For example, Winnipeg reported an $88 million infrastructure deficit in 1998, but that ballooned to some $188 million in 2003. In part, the increase resulted from a new set of provincial water quality standards and a desire to better protect local water sources. A constant source of friction between municipalities and their provincial and federal counterparts has to do with the fact that those governments often set standards, but then leave the costs of financing them to local governments. Further, increased expectations and the changing preferences of citizens themselves may also be playing a role.

Interestingly, there is debate within many cities regarding locally set standards. For example, the *National Guide to Sustainable Municipal Infrastructure* argues that standards need to increase, especially as they relate to quality control, installation, and consistency and uniformity in the design, construction and operation of various infrastructure systems. Countering this view, some urban practitioners have suggested that local standards may simply be too high already. It is not meant here that quality control, maintenance, uniformity and improvements should be sacrificed, but rather, the focus may need to shift to issues of functionality and what is realistically affordable as opposed to an unattainable ideal.

■ *Lack of compact growth.* Population growth, urban sprawl, and metro-adjacent development are not a conspiracy to financially undo cities. Rather, it is a collective response to current economic trends and incentives. Cities provide a wider diversity of career choices, higher incomes, a higher standard of living, and improved quality of life. Individuals are looking after their own self interest when they move to the city. Further, many of these individuals choose the suburbs and metro-adjacent areas to take advantage of more spacious and affordable housing (Azmier and Dobson 2003). But, this also combines with the fact that many municipal services are under-priced relative to the total costs of providing the service, or are priced incorrectly to individual users (Vander Ploeg 2002a). In other words, there are powerful incentives in play that reinforce locational decisions and increase the consumption of services and the demand for infrastructure.

First, many municipal services are funded by property taxes or a system of centralized financing. Tax revenues are collected, thrown into a pot, and then spread out across a range of services with no financial consequences accruing directly to

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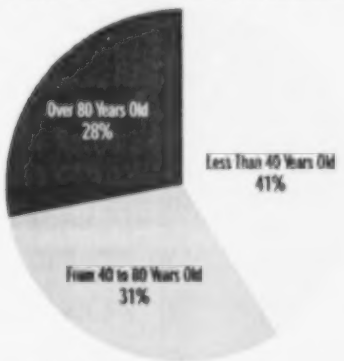

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■ *Lack of correct pricing.* Population growth, urban sprawl, and metro-adjacent development are not a conspiracy to financially undo cities. Rather, it is a collective response to current economic trends and incentives. Cities provide a wider diversity of career choices, higher incomes, a higher standard of living, and improved quality of life. Individuals are looking after their own self interest when they move to the city. Further, many of these individuals choose the suburbs and metro-adjacent areas to take advantage of more spacious and affordable housing (Azmier and Dobson 2003). But, this also combines with the fact that many municipal services are under-priced relative to the total costs of providing the service, or are priced incorrectly to individual users (Vander Ploeg 2002a). In other words, there are powerful incentives in play that reinforce locational decisions and increase the consumption of services and the demand for infrastructure.

First, many municipal services are funded by property taxes or a system of centralized financing. Tax revenues are collected, thrown into a pot, and then spread out across a range of services with no financial consequences accruing directly to

individuals (Palda 1998a). This leads to the perception that these services are "free." Because costs are shared, there is no incentive to reduce individual consumption, which leads to higher total costs and artificial demands for more infrastructure and services (Groot 1995). To be sure, there are public goods and services that can be financed in no other fashion. But, some argue that the modern city has yielded to confusion between what is really a public good, a private good, and a merit good. Paying with taxes, in whole or in part, for golf courses, libraries, recreation facilities, museums, roadways, and other services may not be the best or most efficient way to proceed (Thomas 1981). While free public roadways have often been seen as a public good, this can no longer be defended across the board given the private benefits that accrue from roads and advances in electronic tolling.

Second, user fees are not always used to accurately price the cost of services, but are often used to simply raise revenue (Kitchen 1993). For some services (e.g., recreation centers and libraries), user fees fail to recover total costs. For other services (e.g., water and sewer), user fees do yield full cost recovery but the price charged is a flat fee that ignores the differential costs of providing the service to specific individuals or properties. Such "average cost" pricing spreads the total costs over a group of users. Only "marginal cost" pricing, where the fee is based on the actual cost of the last unit consumed, serves as an accurate pricing mechanism. Some municipal user fees also do not take into account the additional costs of providing certain services during peak demand periods.

Centralized financing of too many services coupled with user fees that either under-price or incorrectly price other municipal services and their related infrastructure can result in waste, perverse economic incentives, and even cross-subsidization that actually redistributes incomes and benefits. Individuals who consume fewer municipal services, or for whom the costs of providing those services are lower, end up subsidizing those who consume more services or for whom the services are more expensive to provide. If the real nature of this redistribution were known, many would find it unacceptable (Kitchen 1993). For example, taxing everybody so a relatively affluent group can play "subsidized" golf and drive on city roads "for free" does nothing to promote equality of income or the efficient provision of services (Thomas 1981).

As far as infrastructure is concerned, some suggest that the price of developing urban fringe land has been too low – well below the full cost of extending utility and transportation infrastructure and even providing fire and police protection. Some of these costs have been subsidized by taxpayers living closer to the city centre (Thomas 1981). A portion of the infrastructure problem, then, simply relates to current incentives that revolve around cost. Suburban and metro-adjacent properties are less expensive, the real cost of providing those properties with municipal services is not charged to those individuals, and there is good access to "free" urban expressways paid by all. All of this couples with significant demand for the particular lifestyle offered in the suburbs and metro-adjacent areas. In short, there is a powerful set of incentives that encourage growth in the periphery, and part of that relates to the fact that the full costs of living there are not fully appreciated. In all likelihood, this dynamic is more easily tolerated in smaller cities where the differential costs between the centre and the periphery are less obvious. But, the same may not apply to today's large urban centers.

2. Insufficient Funding for Infrastructure

■ *Fiscal restraint and recession* The most immediate reason for infrastructure deficits and debt relates to recent fiscal restraint of the federal and provincial governments. Following the huge budget deficits recorded in the late 1980s and early 1990s, these governments began reducing their spending in an effort to end borrowing on the public credit. This period of prolonged belt-tightening occurred on the heels of a rather deep economic recession. Successive federal budgets, which had become increasingly absorbed by high interest payments on debt, were marked by significant reductions in provincial transfers, which eventually found their way to municipalities in the form of less provincial support for both operations and capital.

The result, of course, was a significant fiscal shock for municipal governments. Capital grants, which used to be the financial bedrock for most large municipal capital projects, were severely scaled back, and even today, intergovernmental capital grants tend to be smaller and more sporadic (FCM 2001). Cities are simply more reliant on their own sources of revenue, which tend to be relatively narrow.

During times of fiscal stress, capital spending and the maintenance of assets are the first things to be cut (Parsons 1994). Spending tends to take place where the perceived needs are greatest and the interests are strongest in an effort to avoid any negative public reaction against necessary budgetary measures. In other words, the bridge that needs to be fixed simply waits until next year or the next five years. After all, it is people who protest and not bridges.

Few deny that federal and provincial budgets needed to be brought into balance, but it is important to recognize that this fiscal restraint occurred at a time when cities were growing rapidly and the need for infrastructure investment was rising. While the fiscal deficit has been closed, an infrastructure deficit has opened, and the effect of previous budgetary restraint measures continues to be felt. Relatively high federal and provincial debt levels now limit any significant commitment for a substantial and sizeable re-investment in infrastructure, and could well do so for the foreseeable future (Eggleton 1995).

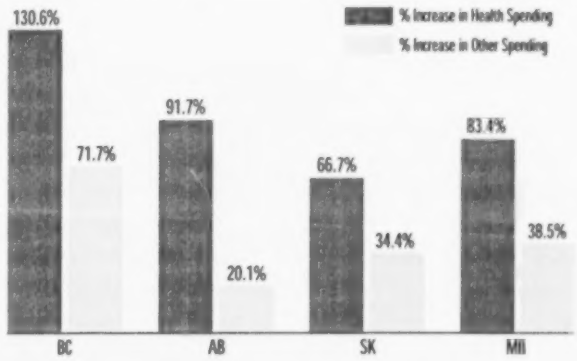
The current infrastructure dilemma is not just about short-term budget pressures, however. It is also very much about a lack of sustainable and steady investment and rehabilitation over the last half century. A lack of long-term planning has resulted in an ongoing cycle of build and replace that continues to monopolize budgets at the expense of maintenance (Vanier 2000). Some suggest that infrastructure has for too long been considered merely in anti-cyclical terms – as a mechanism to stimulate the economy by increasing aggregate demand. The structural aspect – where investment in the long-term is need to maintain public infrastructure and boost the nation's productive capital – has largely been overlooked. In short, there has been a failure of governments to systematically upgrade their assets. Past investment has been too ad hoc and too unpredictable. There has been no steady program of reinvestment (BDO Dunwoody 2001).

Two examples sharpen the point. First, most municipal infrastructure plans cover a horizon from five to twenty years. But, provincial and federal governments tend to take a much shorter view of things. For example, most of the recent federally-driven infrastructure programs did not stretch past a few years, although the most recent program does cover a ten year period. Second, in the 1970s and 1980s, whenever there was a short-term fiscal crunch, maintenance was always deferred. Again, capital is the first to go. But, maintenance and capital should never be deferred. Investments need to be regular (Comeau 2001). By deferring infrastructure maintenance and renewal, governments are contradicting a fundamental principal of sustainability, namely, that each generation should pay for its share of use and enjoyment of intergenerational assets (Manitoba Heavy Construction Association 1998a).

■ *Competing budget priorities.* From the 1950s to the 1970s, Canada invested heavily in the infrastructure required for a modern industrialized economy, and governments could afford such investments because the full cost of expanded and enriched social programs such as public health care and education were not yet being felt. After the 1970s, however, regular maintenance of existing infrastructure and new investments had to compete with other priorities that were either unavailable 50 years ago or that had become much more expensive. Today, infrastructure scrambles for the crumbs that drop off the budget table. The debate over whether Canada should have enriched its social programs or engaged in expensive regional development initiatives is well beyond the scope of this effort, but it is obvious that government budgets in 2003 differ greatly from the budgets of 30 years ago.

In the current fiscal and political environment, governments remain fixated on tax cuts and reduced public debt, or expanded spending on health care and education. In fact, the bulk of new federal and provincial government spending has been allocated to health care, and to a lesser extent, education. *Figure 2* demonstrates how growth in health care spending for each western province from 1990 to 2002 has easily outstripped other government spending by a wide margin.

FIGURE 2: Spending on Health vs. Other Programs
(% Increase in Provincial Spending, 1990-2003)



SOURCE: Derived by Canada West from Dominion Bond Rating Service (DBRS).

Health care spending is rising at a rate greater than inflation and it is also consuming an increasing portion of provincial budgets. But infrastructure does not just compete with health care. Some contend that infrastructure cannot easily compete with municipal priorities as well, whether that be police and fire protection, social, community and cultural services, or parks, recreation and libraries. Each of these tends to receive higher priority. For many cities, this is compounded by past federal and provincial downloading and offloading of certain services (e.g., affordable housing), which has added to municipal budgets a list of new competing priorities for limited property tax dollars. The net effect is a chronic deficiency in capital budgets (Poisson 2002).

CONSUMPTION vs. INVESTMENT

In 1960, total government sector investment in fixed capital formation was about 20% of total government spending on programs. By 2002, total government investment in capital had fallen to less than 10% of total program spending. This trend may be the result of new priorities emerging since the 1960s, such as public health care, government supported education, and other social programs and priorities. But this is not the whole story. Local government, which has traditionally been the builder in the public sector, has seen its investment in fixed capital formation fall from 37% of municipal program spending in 1960 to about 19% in 2002 (Vander Ploeg 2003). Governments are spending more on consumption-related activities than on public infrastructure, and local governments have not been immune.

This pattern is reinforced by the Organisation of Economic Cooperation and Development (OECD). For fiscal year 2000, the OECD reported that total public and private investment in Canada was only 14.4% of GDP, well behind Japan, Australia, France, Germany, and Italy. Canada's rate of public and private investment was only a hair above that of the U.K. and the U.S. On the other hand, Canada's total government consumption was one of the highest at 21.4% of GDP. While this was slightly lower than that of France, it was well ahead of our other competitors, including the U.K., Germany, Italy, Australia, the U.S., and Japan (OECD 2002). Whether it is the general North American tendency to consume more and invest less than their European counterparts, or it is the result of specific economic factors that favour consumption as opposed to savings and investment, the fact is that Canada does appear to exhibit a rather high propensity to consume. All of this affects infrastructure investment.

■ *A heavy reliance on the property tax as opposed to tax revenue diversity.* Compared to both their American and European counterparts, Canadian cities are heavily reliant on the property tax. In fact, Canada is one among five OECD countries that is the most reliant on the property tax (Smith 1996, MacDonald 2002). In many ways, the property tax tends to work well. The tax base is immobile and stable, and the tax itself is visible. All of this ensures reasonable rates of compliance, consistent and predictable revenues, and accountability (Loreto and Price 1990, McCready 1984, Union of Nova Scotia Municipalities 2001).

With regards to infrastructure, however, an over-reliance on the property tax creates numerous problems. First, a good portion of the infrastructure required to accommodate increased population growth may have to be financed and constructed by cities in advance of receiving any property tax revenue generated from that growth. This may simply be a short-term cash flow problem, and the extent and the magnitude of any "lag time" is unclear. But, some still maintain it can be quite problematic under certain circumstances.

Second, the property tax is relatively inelastic, relying on a narrow tax base that links directly to only one aspect of the economy – real estate. This tax base tends to broaden slowly, and cities often find themselves having to increase the tax rate to compensate for inflation – never mind provide adequate revenues (City of Regina 2001). This, combined with the high visibility of the tax, confronts city officials with a political liability in an era when increasing taxation is quite unpopular. Local governments, fearing a public backlash, have been hesitant to adjust the property tax rate to ensure sufficient revenues, and infrastructure has suffered as a result. In short, rapid economic growth and population expansion drive the need for infrastructure, but Canadian cities have to finance that growth through a tax that generates only marginal increases based on that growth.

With regards to infrastructure, sluggish revenue growth is a "double-whammy." Not only does it create a fiscal gap between revenues and growing demands for infrastructure, it limits the ability of local governments to debt-finance their capital expenditures. When revenues expand at a reasonable and consistent pace, some of that growth can be leveraged with modest amounts of debt without increasing the interest burden relative to revenues. If revenues grow only slowly, the interest that accompanies debt can consume more and more operating revenue, squeezing out other priorities.

Third, at least some of the investment in the capital infrastructure of a city is required to meet the demands of commuters, truckers, tourists, business travellers, and other outsiders. Yet, these individuals do not contribute to the residential property tax base upon which many of these services and the capital stock depend. While the extent of this situation differs between cities, given the current patterns of urban growth mentioned above, they can expect even more problems with such "fiscal disequivalence" brought on by an over-reliance on the property tax.

Fourth, administration of the property tax does not always reflect the variable costs of servicing different properties. For example, residential properties closer to the city core are usually more expensive and carry higher assessed values than similar properties in the suburbs. Yet, the costs of servicing suburban properties and their attendant infrastructure are arguably higher. Properties of similar type are assessed the same regardless of the costs of service provision. Further, differential effective tax rates exist between certain classes of properties. It is generally conceded that multi-family residential properties are taxed at a higher effective rate than single-family residential properties, and commercial and industrial properties are taxed at a higher effective rate than all residential properties (Kitchen and Slack 1993, UNSM 2001, Kitchen 2000). None of this constitutes a direct link between the taxes paid and the costs of municipal services or infrastructure. Again, all of this can promote sprawl and over-consumption while at the same time artificially driving demands for more infrastructure (Kitchen 1993, 2000).

Fifth, an over-reliance on the property tax could constitute a hidden disincentive for cities to invest in infrastructure. Based on a preliminary analysis of the Canada Infrastructure Works Program (CIWP), for every $1.00 spent on infrastructure, up to 44¢ was eventually returned to the three orders of government in tax revenue. The federal government received 22¢, provinces received 17¢, but cities only 5¢ (Manitoba Heavy Construction Association 1998b). Certainly, only the federal government has full fiscal recapture since incomes and other economic activity resulting from infrastructure investment can spill over outside a city or a province. But federal and provincial tax regimes are also more diverse, which helps recapture a portion of the increase in aggregate demand that infrastructure investment produces. While it is far from proven, one wonders whether cities would be more inclined to invest in infrastructure if they had a more diverse tax system that allowed them to better recapture a portion of the returns generated by such investments.

Finally, it is important to realize that the property tax is a capital tax that targets savings and investment – the very fuel that drives the engine of economic growth, innovation, and increased productivity. As such, some economists argue that capital taxes are among the worst taxes possible (Clemens 2002). If Canada does indeed have a problem with over-consumption relative to savings and investment, it is hard not to overlook the potential role that the property tax may be playing.

■ *Changing attitudes toward municipal debt.* From the 1950s to the early 1980s, borrowing constituted an important source of capital financing for most cities (Vander Ploeg 2003). Beginning in the mid-1980s, however, many cities embarked on a structured program to reduce debt, especially debt supported by the tax base (tax-supported debt). Some cities pursued the goal of eliminating tax-supported debt all together. For some cities, this may have been necessary due to relatively high debt levels. For example, after a spate of building in the early 1980s, Calgary's total tax-supported and self-supported debt reached a point in 1985 where 24¢ of every revenue dollar was going to interest and principal (City of Calgary 1990). But other forces were also at work. There was a general reluctance by cities to borrow at the high interest rates of the 1980s, and the roller-coaster ride of financial markets since then has made debt instruments less attractive (Mirza 2003). Reinforcing these factors was the emergence of a strong public distaste against federal and provincial deficits and debt, which spilled over onto municipal governments.

As a result, many cities began following a "pay-as-you-go" approach for tax-supported infrastructure (e.g., roads, transit). But changing from debt financing to complete "pay-as-you-go" is not an easy task. At the same time that capital reserves and current revenues are needed to finance capital, funds are still tied up to service outstanding debt. As debt is repaid, only small incremental increases in "pay-as-you-go" funding become available from the reduced debt charges. As a result, many cities were forced to lower their investment in capital until sufficient reserves and "pay-as-you-go" dollars became available.

3. Understanding Infrastructure

■ *Lack of life-cycle costing and adequate management tools and techniques.* Many analysts contend that governments have failed to give full attention to the life-cycle aspect of public infrastructure. There was, and continues to be, little forethought concerning the full costs of maintenance and the time when infrastructure needs to be replaced (Poisson 2002). Instead of considering the commitment needed to maintain infrastructure across its entire lifespan, governments tend to consider only the initial upfront costs of construction. Replacement, which must occur decades later, is an afterthought – someone else's problem. In short, some say that much of the infrastructure problem facing cities comes from a lack of considering system requirements and performance over its entire serviceable life (Mirza 2003). In the past three decades, this trend has also encouraged governments to take on new construction at the expense of properly maintaining existing infrastructure and facilities (Vanier 2000).

The effect of this oversight is serious, and has led to three particular problems. First, governments may have over-built in the sense that they have more infrastructure and facilities than is realistically affordable. This is not to imply that all of the infrastructure is not needed, but it has exposed the fact that governments do lack the resources for sufficient maintenance and repair of what they own. All of this leads to the second problem – an accumulating maintenance deficit. This produces premature renewals of the infrastructure and periodic failures (Vanier 2000). Finally, this on-going practice of designing and building systems without explicit consideration of the regular investments needed has met up with the inevitable – an aging capital stock. The time for rehabilitation and replacement of significant infrastructure systems has arrived, but governments are finding the fiscal cupboards bare.

In all likelihood, there are a variety of reasons for this oversight. In part, it is the result of a lack of knowledge and important management tools within the public sector, broadly speaking (Vanier 2000). For example, many cities simply do not have the capability, tools, or resources to build an inventory of the infrastructure they own, never mind undertaking a detailed description or history of that infrastructure's condition and the amounts needed to maintain or replace it. This has led to sub-optimal repair and rehabilitation strategies – a toxic mix considering the limited funding available in current budgets. A lack of understanding, proper management tools, communication, support, and a sustainable approach to infrastructure management has clearly contributed to the problem (City of Hamilton 2001). *The National Guide to Sustainable Municipal Infrastructure*, an initiative of Infrastructure Canada undertaken by the Federation of Canadian Municipalities (FCM) and the National Research Council (NRC), argues that infrastructure has suffered from a lack of cohesion in departmental decision-making, which in turn has resulted from ineffective choices, silos, and insufficient links between departmental strategies and corporate planning activities (NGSMI 2002). In many ways, infrastructure is an investment. But it is still eventually consumed. That reality is only now coming to the fore.

■ *Accounting processes and priorities:* In the past, many cities recorded only a portion of their annual capital spending in the consolidated statement of income and expenditures – the full amount spent did not form part of the annual budget balance. Rather, an amount for depreciation or interest on debt to fund the capital was charged to current expenditures. This reflected the fact that capital is an investment, and as such, the costs were spread over the life of the asset. Today, accounting principles in the public sector have changed and typically require all capital expenditures to be fully expensed in the year they are made. This removes a lot of fog from financial statements, but some argue it has also provided a disincentive to spend on capital (Mintz and Preston 1993). If the full value of all capital expenditures are recorded in the year they are made, and a good portion of that expenditure is financed by borrowing, the result is a budget deficit on the consolidated income and expenditure statement. In short, the argument is that today's accounting practices produce a disincentive for infrastructure because fully expensing capital can produce a budget deficit, and the public does not readily understand the difference between a shortfall produced by a large one-time capital expenditure as opposed to a structural operating shortfall. If the pursuit of appropriate fiscal policy means not finishing the year with a deficit (and this is debatable), one way to do that is to relax capital expenditures.

However, a return to past practices is not a long-term solution. Even if the full amount of capital is not expensed annually, debt servicing costs and increased depreciation will eventually be felt. Separating capital from the consolidated budget is controversial because it can alter the government's financial position at year end, and impair the public's ability to judge affordability. As such, a drive must be made to increase the public's understanding of what a "capital-driven" deficit really means.

SUMMARY: Appreciating why municipal infrastructure deficits and debt have appeared is a logical first step before developing any list of potential solutions. Approaches that fail to address the primary drivers of the problem in a meaningful way provide only short-term relief. What is needed are sustainable approaches and alternatives to resolve the matter in the long-term *(Figure 3)*.

FIGURE 3: Addressing the Infrastructure Deficit Drivers

DRIVERS	GOALS TO BE PURSUED
INFRASTRUCTURE DEMAND:	
Population Growth	Change incentives. Urban density. User pay.
Aging Infrastructure	Proper maintenance, rehabilitation, replacement
Rising Standards	Emphasize functionality over other factors.
Lack of Pricing	Activity-based accounting. Marginal cost pricing.
INSUFFICIENT REVENUES:	
Fiscal Restraint	Long-term planning. Change attitudes to capital.
Competing Priorities	Reform other services to free up funds.
Property Tax	Tax diversity to compensate for current incentives.
Attitudes to Debt	Combine "pay-as-you-go" with "smart debt."
UNDERSTANDING INFRASTRUCTURE:	
Life-Cycle Costing	Employ strategic asset management strategies.
Accounting	Appreciate the unique role played by capital.

The effect of this oversight is serious, and has led to three particular problems. First, governments may have over-built in the sense that they have more infrastructure and facilities than is realistically affordable. This is not to imply that all of the infrastructure is not needed, but it has exposed the fact that governments do lack the resources for sufficient maintenance and repair of what they own. All of this leads to the second problem – an accumulating maintenance deficit. This produces premature renewals of the infrastructure and periodic failures (Vanier 2000). Finally, this on-going practice of designing and building systems without explicit consideration of the regular investments needed has met up with the inevitable – an aging capital stock. The time for rehabilitation and replacement of significant infrastructure systems has arrived, but governments are finding the fiscal cupboards bare.

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DRIVERS	GOALS TO BE PURSUED
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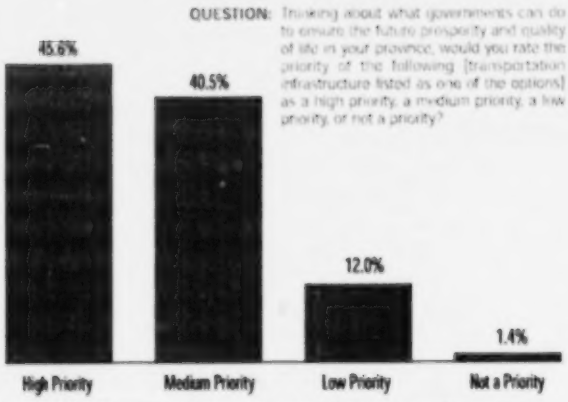
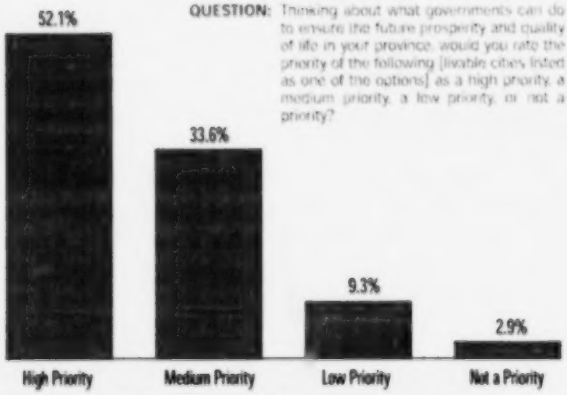
Aging Infrastructure	[illegible]
Rising Standards	[illegible]
Lack of Pricing	[illegible]
INSUFFICIENT REVENUES	
Fiscal Restraint	[illegible]
Competing Priorities	[illegible]
Property Tax	[illegible]
Attitudes to Debt	[illegible]
UNDERSTANDING INFRASTRUCTURE	
Life-Cycle Costing	[illegible]
Accounting	[illegible]

FIGURE 4: Transportation Infrastructure as a Policy Priority
(% of Western Canadians Agreeing)


QUESTION: Thinking about what governments can do to ensure the future prosperity and quality of life in your province, would you rate the priority of the following [transportation infrastructure listed as one of the options] as a high priority, a medium priority, a low priority, or not a priority?
45.6%
40.5%
12.0%
1.4%
High Priority
Medium Priority
Low Priority
Not a Priority

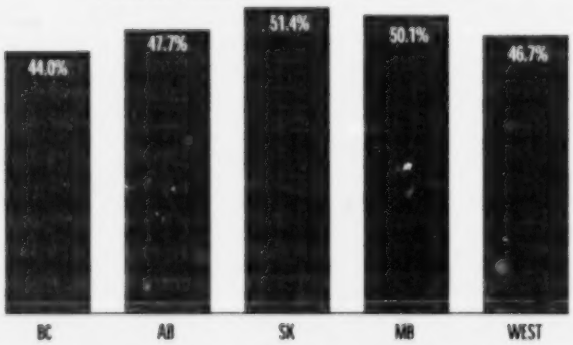
SOURCE: Berdahl, Loleen. 2003. *Looking West 2003: A Survey of Western Canadians.*

FIGURE 5: Livable Cities as a Policy Priority
(% of Western Canadians Agreeing)


QUESTION: Thinking about what governments can do to ensure the future prosperity and quality of life in your province, would you rate the priority of the following [livable cities listed as one of the options] as a high priority, a medium priority, a low priority, or not a priority?
52.1%
33.6%
9.3%
2.9%
High Priority
Medium Priority
Low Priority
Not a Priority

SOURCE: Berdahl, Loleen. 2003. *Looking West 2003: A Survey of Western Canadians.*

FIGURE 6: Local Governments Have Too Little Revenue
(% of Western Canadians Agreeing)



SOURCE: Berdahl, Loleen. 2003. *Looking West 2003: A Survey of Western Canadians.*

PUBLIC OPINION

While uncovering the sources and key drivers of the municipal infrastructure issue are important, so too is an assessment of current public opinion on the matter. If Canadians themselves are not convinced of the severity of the infrastructure problem, they may also be reluctant to explore and consider new alternatives, making the search for potential solutions even more problematic.

■ *There is public concern about infrastructure.* Recent public opinion survey research demonstrates that western Canadians are indeed concerned about the state of the region's infrastructure. For example, Canada West Foundation's *Looking West 2003* (Berdahl 2003) explored the opinions of 3,202 western Canadians. This survey found that almost half of them rated "investing in transportation infrastructure" as a high priority. Almost nine in ten western Canadians rated it to be a high or medium priority for the future prosperity and quality of life for their province *(Figure 4)*.

The survey also asked western Canadians whether or not "ensuring livable cities" was a policy priority, which can be assumed to include at least some aspects of municipal infrastructure *(Figure 5)*. Over one in two western Canadians rated livable cities as a high priority, and over eight in ten rated it as a high or medium priority. Taken together, these data suggest that the public indeed does recognize the importance of infrastructure, and could also be supportive of increasing infrastructure investments.

■ *Many believe that local governments lack sufficient revenue.* These findings are underscored by yet another question asked of respondents to Canada West Foundation's *Looking West* survey. Here, western Canadians were asked whether they believe their local government has sufficient revenue to take care of their current governmental responsibilities *(Figure 6)*. Almost one in two western Canadians (46.7%) stated that their local government has insufficient revenues to carry out its responsibilities. Residents of Saskatchewan were the most inclined to hold this position (51.4%), while British Columbians were the least likely (44.0%). At the same time, the differences among all four western provinces are not large. In other words, there is a relative consensus among almost half of westerners that local governments have insufficient financial resources.

■ *Other concerns are more important.* The challenge for infrastructure investment, however, is not so much that the public fails to recognize it as a priority. Rather, the public identifies a variety of other policy areas as being more important. This is shown by other *Looking West* survey data highlighted in *Figure 7*. Again, a majority rated livable cities as a high priority (52.1%) and a near-majority also rated investing in transportation infrastructure as a high priority (45.6%). But, there are eight other policy areas that had more respondents rating them as high priorities. Not surprisingly, these included improving the health care system, protecting the environment, and improving both K-12 and post-secondary education.

These findings are reinforced from the results emerging from a national 2002 Strategic Counsel survey examining the opinions of Canadians on several policy priorities for government spending. Health care once again topped the list of priorities for government spending with over 90% of Canadians saying that area was important for increased spending *(Figure 8)*. At the same time, over 60% of all Canadians did agree that "municipal services and infrastructure" were an important government spending priority as well.

The 2002 Strategic Counsel survey went on to ask Canadians to choose only one policy area as their top priority for increased federal spending *(Figure 9)*. When set against other competing priorities, "municipal services and infrastructure" clearly suffered. Only 5% of Canadians see that option as the first choice among the policy areas presented. Again, health care was the single most important policy priority, mentioned by 60% of survey respondents.

Summary: Canadians do express concern over municipal finance issues in general, and infrastructure issues in particular. But the point to stress is that, when compared to other policy areas, infrastructure investment consistently loses out. It is safe to say that the public does understand the importance of infrastructure in general terms, but its relative importance to other areas is arguably misunderstood. This is a cause for concern because infrastructure is critical to both quality of life and achieving economic potential. Poor or inadequate public infrastructure threatens health and safety, the environment, and the economy. In other words, the tax dollars needed to finance the very priorities of Canadians (e.g., health care and education) do depend to some extent on a good public infrastructure system that supports the functioning of the broader economy.

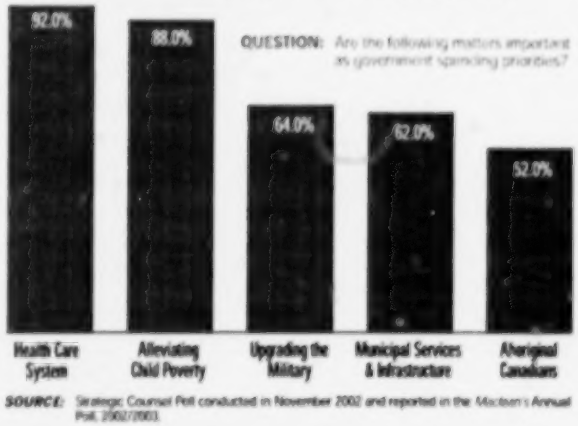
FIGURE 7: Policy Priorities in Western Canada
(% of Western Canadians Agreeing that Each is a "High" Priority)

QUESTION: Thinking about what governments can do to ensure the future prosperity and quality of life in your province, would you rate the priority of the following as a high priority, a medium priority, a low priority, or not a priority?

Improving the Health Care System	74.0%
Retaining Young People	67.6%
Protecting the Environment	64.1%
Supporting Rural Industries	61.9%
Improving the K-12 Education System	59.5%
Improving the Post-Secondary Education System	57.1%
Diversifying the Provincial Economy	54.5%
Ensuring Livable Cities	52.1%
Investing in Transportation Infrastructure	45.6%
Lowering Taxes	41.3%
Increasing Aboriginal Employment Levels	35.0%
Increasing Funding for Social Services	31.2%
Attracting More Immigrants	13.0%

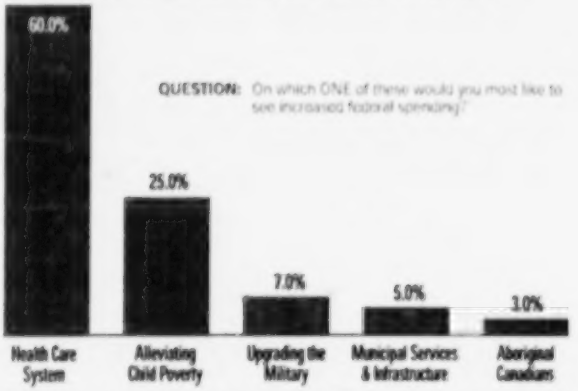
SOURCE: Bowlen, Loewen, 2003. *Looking West 2003: A Survey of Western Canadians.*

FIGURE 8: Priorities for Government Spending
(% of Canadians Agreeing Each Item is a Spending Priority)



SOURCE: Strategic Counsel Poll conducted in November 2002 and reported in the Maclean's Annual Poll, 2002/2003.

FIGURE 9: The Top Priority for Federal Spending
(% of Canadians Choosing one Option as the Top Priority)



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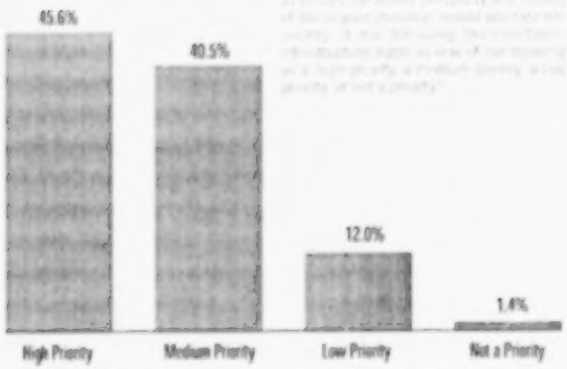

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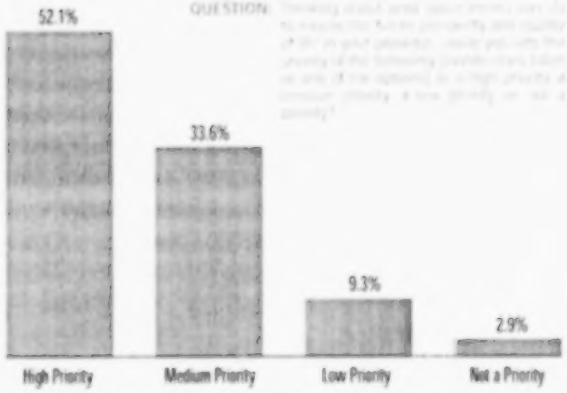

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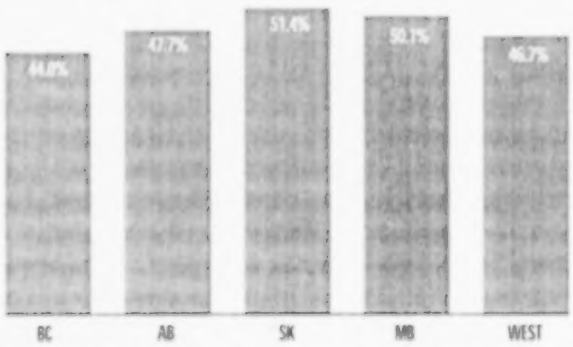

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The survey also asked western Canadians whether or not "ensuring livable cities" was a policy priority, which can be assumed to include at least some aspects of municipal infrastructure *(Figure 5)*. Over one in two western Canadians rated livable cities as a high priority, and over eight in ten rated it as a high or medium priority. Taken together, these data suggest that the public indeed does recognize the importance of infrastructure, and could also be supportive of increasing infrastructure investments.

These findings are underscored by yet another question asked of respondents to Canada West Foundation's *Looking West* survey. Here, western Canadians were asked whether they believe their local government has sufficient revenue to take care of their current governmental responsibilities *(Figure 6)*. Almost one in two western Canadians (46.7%) stated that their local government has insufficient revenues to carry out its responsibilities. Residents of Saskatchewan were the most inclined to hold this position (51.4%), while British Columbians were the least likely (44.0%). At the same time, the differences among all four western provinces are not large. In other words, there is a relative consensus among almost half of westerners that local governments have insufficient financial resources.

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The 2002 Strategic Counsel survey went on to ask Canadians to choose only one policy area as their top priority for increased federal spending *(Figure 9)*. When set against other competing priorities, "municipal services and infrastructure" clearly suffered. Only 5% of Canadians see that option as the first choice among the policy areas presented. Again, health care was the single most important policy priority, mentioned by 60% of survey respondents.

Summary:

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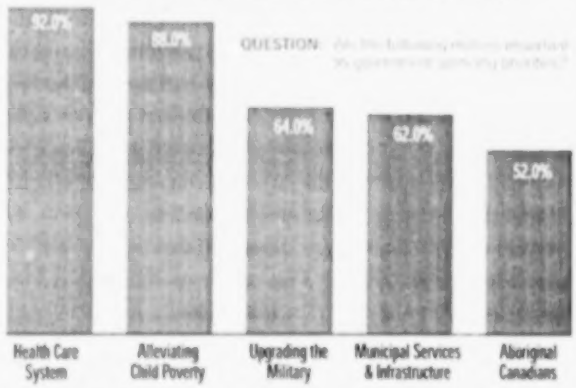
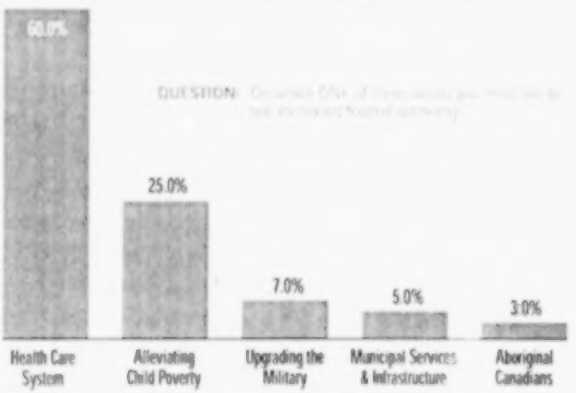
SOURCE: Bordahl, Loleen. 2003. *Looking West 2003: A Survey of Western Canadians.*

FIGURE 8: Priorities for Government Spending
(% of Canadians Agreeing Each Item is a Spending Priority)



SOURCE: Strategic Counsel Poll conducted in November 2002 and reported in the Maclean's Annual Poll, 2002/2003.

FIGURE 9: The Top Priority for Federal Spending
(% of Canadians Choosing one Option as the Top Priority)



SOURCE: Strategic Counsel Poll conducted in November 2002 and reported in the Maclean's Annual Poll, 2002/2003.

"SOFT" INFRASTRUCTURE OPTIONS

In assessing the range of options for financing municipal infrastructure, it is immediately evident that alternatives tend to fall under two broad approaches: "hard" options that speak directly to increasing the dollars needed to finance infrastructure, and "soft" options that focus on better understanding the issue and seeking savings by following specific strategies, currently within the legislative capacity of cities, that could potentially free existing funds for application elsewhere.

- **Strategic Asset Management:** ***"What is not measured cannot be managed."***
  One of the drivers behind infrastructure deficits and debt is a misunderstanding of the life-cycle demands of existing infrastructure. Proper asset management speaks to correcting this deficiency by creating a clear vision of the "big picture" and what is needed to protect and enhance the performance of existing infrastructure assets. Proper asset management conducted at the macro level attempts to eliminate the disconnect between technical planners and financial decision-makers by breaking down "silos" that work against sustainable asset management and linking strategic infrastructure management across the municipal operation to financial planning. Strategic management of existing assets incorporates six steps that require the production and analysis of specific data to more accurately measure infrastructure needs and manage those needs: 1) An inventory of all infrastructure assets across the municipal operation is constructed (*what do we own?);* 2) The replacement value of infrastructure assets is determined using current construction costs *(what is it worth and what would it cost to rebuild?);* 3) The condition and age of existing infrastructure is determined *(at what stage in the life-cycle are the assets?);* 4) The types of spending required are then determined *(what do we need to do – minor or major maintenance, rehabilitation, or replacement?);* 5) A timeline is developed as to when expenditures need to be made *(when do we need to spend?);* and 6) An assessment of the future costs required to preserve and service individual aspects of existing infrastructure assets is conducted *(what do we need to spend?)* (Vanier 2000, R.V. Anderson and Associates 2002).

  The data requirements for proper and comprehensive asset management are intense – it demands the collection, production, and analysis of significant amounts of information from across all municipal departments and functions. As such, the process can only be implemented gradually. Some of the best examples of how cities can move in this direction are found in western Canada, and include the 2000 SIRP report of the City of Winnipeg and the work ongoing at Edmonton's Office of Infrastructure. Here, both cities have developed a comprehensive inventory of their infrastructure assets and the replacement value of those assets. Edmonton has gone a step further by thoroughly analyzing the condition of its assets. Work continues on quantifying the investments needed and when they need to occur. The newly created federal Department of Infrastructure is also working to address knowledge gaps as a key element of a more strategic approach through its research and analysis activities. Each of these are significant efforts, and are important steps in achieving a more strategic and integrated approach to municipal infrastructure issues.

- **Regionalize and Rationalize:** ***"If utilization is not maximized, then efficiency is not maximized."***
  Wherever possible and practical, multi-purpose facilities should be considered for a wide variety of public as well as private use. Coordinating infrastructure investments that meet the mutual needs of adjoining municipalities throughout a city-region can be accomplished by collaborative capital planning, shared construction, and shared usage of facilities and its related infrastructure. Such approaches can reduce costs and maximize usage. At the *MetroWest II Conference* hosted by the Canada West Foundation in 2002, some participants took this option even further, advancing the idea of regionalized service delivery and infrastructure development across western Canada by having various cities develop world class facilities based on existing strategic and inherent advantages. While one city in the West has a world-class international airport serving as a hub for the region, another city would have a state-of-the-art convention centre. As one participant at *MetroWest II* put it, "Each city in the West should have something, but not necessarily everything" (Vander Ploeg 2002b.)

- **Infrastructure Demand Management:** ***"If costs are to be reduced, then current patterns of usage and behaviour need to change."***
  Managing infrastructure demand and usage through strategies such as "high occupancy vehicle" (HOV) lanes during peak periods, "traffic calming" and the implementation of "reverse lanes" is a basket of alternatives already in play across western Canada's cities. These strategies are intended to manage rapidly growing transportation requirements without expanding existing infrastructure. The effectiveness of such strategies clearly depends on a variety of local circumstances. The intention behind these approaches can certainly be applauded and even recommended, but it is important to realize that they "swim against the current" of certain incentives built-in to the way cities are currently financed. Wherever possible, cities should try and implement strategies across a wide range of services – and the infrastructure supporting those services – that will modify behaviour and usage patterns by using economic incentives as opposed to regulations. For any municipal service that is priced or could be priced, things like "peak period charges" can come into play to limit demand. One example often cited is the establishment of a "bag limit" for solid waste services, and requiring a fee for collecting any amount over that limit (usually by requiring that special tags be purchased for such purposes).

TRADITIONAL SOURCES OF INFRASTRUCTURE FINANCING

Broadly speaking, there are eight traditional sources of capital financing employed by western Canada's big cities. These eight sources are generally narrow, but any assessment of whether more options are needed to address the problem should begin with a brief discussion of these current sources, how they have been traditionally employed, and an assessment of their potential to address infrastructure deficits in the West's big cities. To finance capital construction and municipal infrastructure, cities typically draw on the following financing tools:

- *Transfers from Current Operating Revenue*
- *Transfers from Capital Reserves*
- *Federal and Provincial Capital Grants*
- *Local Improvement Levies or Surcharges*
- *Developer Charges and Donated Assets*
- *User Fees*
- *Borrowing and Debt Issuance*
- *Sale of Assets and Other*

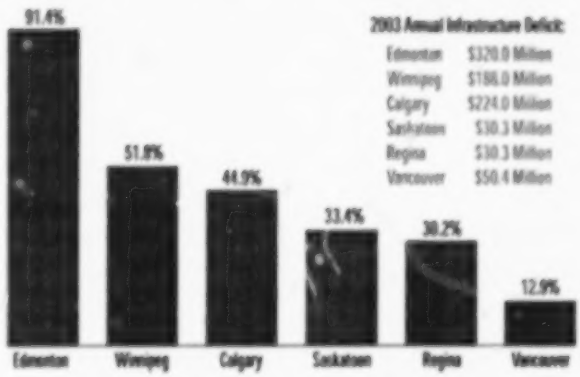
1. Current Operating Revenue

■ *How it works.* The largest source of capital financing for most big western cities is a direct internal transfer of current revenue from the operating budget to the capital budget. This revenue stream comprises a significant portion of the funds that are often called "pay-as-you-go" since it takes current revenues earned in one year and applies them directly to the current capital expenditures for the same year. The revenues that are transferred typically include a portion of current property taxes, user fees and other income from licenses and permits, fines, and interest earnings. The prior year's operating surplus is sometimes transferred to fund capital as well.

While it is difficult to sort out specifically, city by city, which current revenues tend to contribute the most to fund capital, it is quite likely that property taxes constitute the single largest source. User fees collected by the operating budget tend to attach to specific services leaving little to transfer from this source. Other revenue, as a portion of most city budgets, tends to be quite small. Thus, any analysis of the potential for current revenues to contribute to the potential closing of infrastructure deficits likely revolves around a detailed discussion of the property tax.

■ *Assessing the potential.* The infrastructure deficits reported by the cities in 2003 are large relative to property tax collections, and they are growing. For example, unfunded projects in Calgary were $1.120 billion in the 2003-07 period ($224 million a year) compared to $1.375 billion ($275 million a year) in the 2004-08 period. *Figure 10* expresses each city's annual infrastructure deficit for 2003 as a percent of the property taxes collected in 2002. If infrastructure deficits were to be closed with property taxes alone, tax revenue would have to double in Edmonton and increase by 50% in Winnipeg and Calgary. Saskatoon and Regina would have to increase property tax revenue by 30%. Even this may be insufficient since Regina's infrastructure deficit amount ignores certain services, and all needs might not have been measured in Saskatoon (Vander Ploeg 2003). Only in Vancouver does closing the gap with property taxes appear even remotely in reach. However, this may be illusory since the Greater Vancouver Regional District (GVRD) provides much of the capital intensive services for the city, and the size of any infrastructure deficit across the larger city-region remains unclear.

FIGURE 10: Property Tax and the Infrastructure Deficit
(% Increase in Tax Revenue Needed to Close the Deficit)



SOURCE: Derived by CWF from various city annual reports and capital budgets.

Increasing property taxes to pay for needed infrastructure is a logical first option. Property taxes do have the advantage of being within the current jurisdiction of cities and there are no legislative restrictions on the amounts by which property taxes can be increased. Some critics of the emerging urban agenda have also argued that cities have created part of the infrastructure problem themselves by intentionally limiting property tax increases through "zero percent tax increase" policies, which are unreasonable and overly restrictive. In other words, the infrastructure problem is to some degree self-inflicted – cities have placed themselves in a revenue crunch that has made it difficult to finance their long-term infrastructure plans.

This argument may have merit if only because zero growth in property taxes should not constitute the final goal of municipal fiscal policy. The property taxes paid by individuals can increase regularly if it grows alongside incomes or some other measure of prosperity. The problem, however, is that conscious decisions to increase the property tax year over year, no matter how small, will not be popular. A powerful barrier to small annual increases is the public perception that property taxes are already too high, although this is far from proven. At the same time, some cities are reporting that growth in property tax revenue cannot sustain the increased costs of municipal operations, let alone deal with capital needs. More important, the property tax has contributed to some of the incentives fuelling infrastructure deficits. Without reform of the property tax system, combined with tools to address free-riding, increasing property taxes may only reinforce these incentives. In the final analysis, property taxes do have some potential. But, the magnitude of the increases required coupled with public perceptions and the current incentives produced by the tax, means that potential may be limited.

2. Capital Reserves

■ *How it works:* Every city maintains a complex group of operational and capital reserve funds built up over time by saving a portion of current revenues and surpluses from previous years. As a result of increased infrastructure needs, some cities are reporting they will turn to their capital reserves more aggressively to fund infrastructure (Vander Ploeg 2003).

■ *Assessing the potential:* The advantage of increased use of capital reserves is clear in that it enlarges the current capital financing envelope without any increase in taxation. However, reserves are nothing more than a savings account, and thus can be used only as a stop-gap measure. It is important to understand that infrastructure deficits are a *structural* gap as opposed to a *cyclical* shortfall. As such, only measures that provide permanent revenues or permanent savings can address the issue in the long-term. Further, most capital reserves have already been dedicated to funding specific capital requirements anticipated in the future. While priorities can always be shifted to accommodate new and emerging concerns, and reserves could be redirected to fund some desperately needed large one-time infrastructure projects, this would only open a gap in other infrastructure areas. In short, capital reserves cannot be viewed as a sustainable or ongoing source of funding for regular maintenance, renewal or rehabilitation of existing assets, and redirecting the resources may negatively impact other areas.

3. Capital Grants

■ *How it works:* The traditional capital grant typically comes in the form of a conditional transfer from federal and provincial governments. Usually, these grants require municipalities to cost-share a portion of a specific project that meets with federal and/or provincial approval. Since 1994, most capital grants received by municipalities have been linked to a number of tri-partite national infrastructure programs spearheaded by the federal government. From 1994-2013, Canada will benefit from a total federal investment in infrastructure of $13.4 billion *(Figure 11)*. However, concerns still exist that the amounts provided are too low. If federal investment levels are not increased in the coming years, the average federal infrastructure investment will amount to about $704 million annually over 19 years. This is often contrasted with the U.S. *Transportation Equity Act for the 21st Century (TEA-21)*, which dedicated $216.3 billion (US) for roads and transit over a five-year period. This is an average annual investment of $43.2 billion on roads and transit alone. If one assumes that Canada should spend roughly one-tenth of what our primary competitor is investing, then the federal government's infrastructure investment would have to rise appreciably.

■ *Assessing the potential:* In the past, federal and provincial funding in the form of the conditional capital grant constituted a significant source of regular and ongoing support for municipal infrastructure. But, they have been significantly reduced in the last ten years, falling victim to budgetary restraint. Rather than forming an increasing and predictable source of funding, grants have become more ad hoc and limited to one-time infusions. With every federal and provincial budget, it seems cities wait with bated breath for any announcement respecting infrastructure funding.

A resurgence in capital grants and a renewed commitment to sustain them would be welcome news for Canada's cities. However, there are a number of problems with such hope. First, all of this is simply out of the hands of city governments, and prospects for a significant increase in granting levels does not appear to be forthcoming if only because urban infrastructure has to compete with increased health and education funding, both of which possess strong public support. Increases in grants also have to be factored against ongoing demands for tax reductions, which have also proven popular.

FIGURE 11: Federal Infrastructure Programs, 1994-2003

Canada Infrastructure Works Program:
Announced in 1994. Program ran from 1994-1997. Federal funding totalled **$2.0 billion** initially, with a **$425 million** top-up. The top-up in funding was announced in 1996, and the program was also extended to 1999. The partnership model sees federal funds matched by provincial and municipal governments and the private sector. The purpose of the program was to stimulate the renewal of infrastructure (focus on water, sewer, roads, bridges) and to stimulate short-term job creation.

Infrastructure Canada Program:
Announced in 2000. Program runs from 2000-2007. Federal funding totals **$2.05 billion.** The partnership model sees federal funds matched by any combination of municipal, provincial, territorial and First Nations governments, and the private sector. The purpose of the program is to upgrade rural and urban municipal physical infrastructure (50% of the funds are dedicated to "green" infrastructure projects).

Canada Strategic Infrastructure Fund:
Announced in 2001. Program runs from 2001-2006. Federal funding totalled **$2.0 billion** initially, with a **$2.0 billion** top-up. The top-up in funding was announced in 2003, and the program was also extended to 2013. The partnership model sees federal funds matched and shared between any combination of municipal, provincial, or territorial governments, and the private sector. The purpose of the program is to fund large, national or regional projects that promote economic growth and/or quality of life (e.g. water quality, trade corridors, broadband connectivity, sustainable urban growth, and northern infrastructure).

Border Infrastructure Fund:
Announced in 2001. Program runs from 2002-2013. Federal funding totals **$600 million.** The partnership model sees federal funds cost-shared with provincial and municipal governments and private partners. The purpose of the program is to reduce border congestion, enhance security, and expand infrastructure capacity.

Prairie Grain Roads Program:
Announced in 2000. Program runs from 2001-2005. Federal funding totals **$175 million.** The partnership model is cost-sharing, but specifics vary by province. The purpose of the program is to upgrade municipal grain roads and provincial secondary highways.

Green Municipal Enabling Fund:
Announced in 2000. Program runs from 2000-2007. Federal funding totals **$50 million.** The partnership model sees cost-sharing (maximum 50%, up to $100,000) with municipal governments and their public and private sector partners. The purpose of the program is to undertake feasibility studies for innovative municipal environmental projects.

Strategic Highway Infrastructure Program:
Announced in 2000. Program runs from 2002-2006. Federal funding totals **$600 million.** The partnership model sees $500 million dedicated to highway construction (cost-shared 50-50 with the provinces and territories) and $100 million for highway system integration (cost-shared up to 50% with provinces, municipalities, and others). The purpose of the program is to aid in the development of highway construction and highway system integration including border improvements, intelligent transportation systems, planning, and modal integration.

Green Municipal Investment Fund:
Announced in 2000. The Program is a permanent Revolving Fund or Endowment. Total federal funding to seed the endowment was **$200 million.** Municipal governments and their public and private sector partners are eligible to apply. The purpose of the program is to provide loans for the implementation of innovative municipal environmental projects.

Cultural Spaces Canada Program:
Announced in 2001. Program runs from 2001-2004. Federal funding totals **$80 million.** Non-profits, arts and heritage organizations, provincial, territorial, and municipal governments, and First Nations can apply for funding. The purpose of the program is to aid in the improvement and construction of arts and heritage facilities, to undertake feasibility studies, and to help with the acquisition of specialized equipment.

Affordable Housing Program:
Announced in 2001. Program runs from 2002-2007. Federal funding totalled **$680 million** initially, with a **$320 million** top-up announced in the 2003 budget. The partnership model sees all funds cost-shared through individual agreements with provinces and territories. The purpose of the program is to increase the supply of affordable housing.

Residential Rehabilitation Assistance Program:
Announced in 1994. Program runs from 1994-2006. Federal funding totals **$1.19 billion.** The partnership model is a voluntary cost-sharing with eight provinces and territories, but municipalities may serve as the delivery agents. The purpose of the program is to repair and improve housing for occupancy by those with low incomes.

Municipal Rural Infrastructure Fund:
Announced in 2003. Federal funding totals **$1.0 billion.** The partnership model is the same as the Infrastructure Canada Program, but will fund smaller scale projects (at least 80% of the funding is earmarked for municipalities with a population of less than 250,000). The purpose of the program is to address infrastructure in rural and remote communities (e.g., water, wastewater, solid waste, transit, roads, culture, connectivity).

Total federal funding for infrastructure initiatives is $13.370 billion.

SOURCE: Infrastructure Canada.

More to the point, it is not clear if more capital grants, as they are traditionally employed, would be desirable. Conditional grants carry the prospect of leakage – transaction costs that result from negotiating amounts and reaching intergovernmental agreements. The current system also requires municipal funding to follow the grant, but municipalities are often hard-pressed to find the funds. Of specific concern is how conditional grants can skew local priorities – they force spending on certain items only because a grant exists. For example, a city may find itself building hockey arenas when what is really needed is a new sewage treatment plant. Some have argued that this approach has also contributed to infrastructure deficits because funds have not been properly directed to needs. The last federal infrastructure program, with its focus on "green" infrastructure, has been the target of such criticism. All big western cities fund their water and sewer utilities like a business with self-funded revenues. The infrastructure initiative, with a focus on water and sewer upgrades, provided an advantage to cities that had not addressed their fundamental utilities and a disadvantage for those who had. Finally, urban finance experts wonder about the problems of accountability that can result when responsibility for raising the revenue is separated from the responsibility for making the actual expenditures.

In the final analysis, a renewed commitment to the traditional capital grant would clearly tackle some of the infrastructure problem, and it should not be snubbed. At the same time, cities themselves need to decide whether their past experience with the traditional capital grant and its downsides with respect to conditionality, local autonomy, predictability, and accountability are worth expending the effort to restore this type of funding.

4. Local Improvement Levies

■ *How it works:* Local improvement levies or surcharges can take a number of forms, but they generally refer to a special fee or tax collected directly from property owners and users who stand to directly benefit from a specific infrastructure project to enhance service in a localized area of a particular community. Oftentimes, the levy is used to service the local improvement debt that has been taken on to develop or upgrade the infrastructure.

■ *Assessing the potential:* Local improvement levies carry a specific advantage over other funding sources in that they have a direct link between the costs of an infrastructure project and those who benefit. Sometimes, such levies are used only after local consent has been given, and are thus part of a democratic decision-making process as well. From a number of vantage points, local improvement levies appear to be a good financing source for infrastructure. The problem, however, is that they can only be employed to fund a narrow range of infrastructure projects, such as underground utility upgrades or localized road and curb work that can be recouped through frontage charges. As such, they cannot speak to the larger infrastructure issues such as arterial roads or transit extension. To be sure, local improvement levies should be used wherever possible if only because of the link established between the work being done and those who benefit. But there is a downside to this as well, in that lower income neighbourhoods lack the same ability to finance such improvements, leading to questions of inequality.

5. Developer Charges and Donated Assets

■ *How it works:* Development charges are fees assessed to developers and redevelopers of land for both commercial and residential purposes. The idea behind the charge revolves around the notion of value capture – developers recoup an economic benefit from their activities, and part of that benefit accrues from public infrastructure. Developer charges are typically negotiated for a specific term, and a fee per hectare developed is charged. Developers are typically responsible for helping pay for major roadways that adjoin new developments, signage, parks, recreation facilities, and various utility infrastructure such as water, sewer, and storm drainage. In some instances, private developers also undertake the financing and construction of certain public infrastructure such as local streets, curbs, walkways, lanes, gutters, bus stop aprons, and smaller water, sewer and storm water infrastructure. These assets are then donated to the city.

■ *Assessing the potential:* Developer charges do form a significant source of financing for many cities, particularly those that are experiencing rapid growth. As such, they directly address at least one driver of infrastructure deficits. If such charges also reflect variances in the costs of particular developments, they may also help tackle part of the problem with pricing – at least some of the costs to the developer are likely passed on to the homebuyers or commercial property owners.

However, the degree to which these charges, as traditionally employed, can help reduce infrastructure deficits is probably

limited. First, development charges speak only to new infrastructure required to accommodate growth, but a significant part of the problem for many cities is the renewal of existing infrastructure. Further, current development agreements are generally linked to local infrastructure provision only, and may not always capture the infrastructure needs that build up downstream. It is one thing to have the costs of hundreds of local streets directly paid by new developments themselves, but what about that new expressway or interchange that is now required two kilometers down the road or the millions required for an extension of transit? Further, while developer charges help cover the initial upfront costs for the city, the ownership of the assets eventually reverts to the city and actually creates a future liability in that it will have to be eventually replaced.

Increasing development charges to cover some of these costs is an option. It does make sense to ensure that new growth is paying for itself and also helping cover additional costs that occur elsewhere in the city as a result. The problem is, the true value of these costs is not easily quantified and provincial approval may be required. Perhaps more important, it is politically difficult to substantially increase taxes on a specific group or sector with the intent of spreading the revenue out to a more generalized group of users. It is easier, politically, to levy a very small tax on a large group of taxpayers and concentrate the spending where it is needed. While a potential negative reaction from developers should not be the final deciding factor, the potential impact on housing affordability is a different matter. In the end, increased developer charges may well be part of the solution, but they cannot carry the entire burden of fixing the problem.

6. User Fees

■ *How it works.* User fees defray the cost of services that provide private benefits, and are a significant source of funding for most cities. There are two types of fees. First are general user fees, which partially recover the costs of services such as transit, recreation, culture, and libraries. It is unclear the degree to which these fees cover operating costs as contrasted to capital needs. Most general user fees only partially recover costs. Second are utility fees, which are designed to fully recover the operating and capital costs of various utility services. Typical examples include water, sewer, and electricity. Some of these fees may also generate a profit, which is then used to support other general municipal government expenditures.

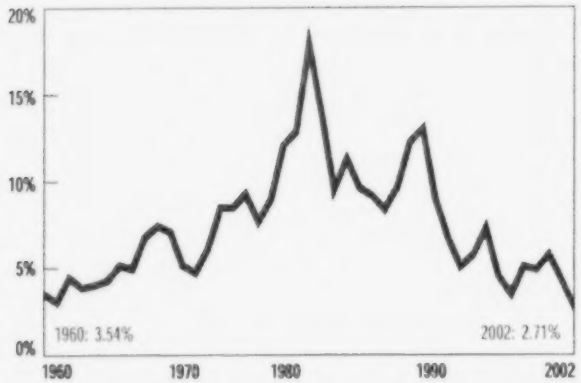
■ *Assessing the potential.* The potential of user fees to address infrastructure deficits in western cities is handicapped by two factors. First, a good portion of the infrastructure shortfall lies in tax-supported areas such as roadways. Traditionally, user fees have not been used to fund these areas. Second, utility-based user fees offer very little potential if only because the capital needs of most utility operations appear to be adequately funded, although Winnipeg and Saskatoon may be exceptions to this broader rule (Vander Ploeg 2003). While utility fees could be increased to generate more revenue to fund capital, that would also imply a violation of the principle of correct pricing. In this case, the overall price charged would be too high and would really amount to nothing more than a tax grab.

At issue, then, is the potential of general user fees, most of which accrue to the operating budget and would have to be transferred to capital. The problem is, most of these fees tend to cover only a portion of the costs associated with a specific set of municipal services. Not only have these user fees generally shown limited potential for growth, to contribute they would have to be drastically increased relative to the costs of providing services. This carries a substantial downside. For example, recreation facility fees could be increased to cover all the costs of operations and capital with the tax savings then applied to other infrastructure needs. But usage of those facilities could also decline as a result. If the facilities are not sustainable under full cost recovery, the facilities would have to close. Drastically increasing transit fares could result in a similar drop in usage, aggravating transportation problems elsewhere and hurting lower income citizens who depend on transit. In other words, the potential of user fees here cannot lie in simply hiking the rates.

7. Borrowing

■ *How it works.* Infrastructure is a long-term investment that often provides benefits for decades. As such, cities have always issued a certain amount of debt to fund these investments. The debt is either borrowed on financial markets or from provincial municipal financing authorities. The debt is usually in the form of serial debentures (annual repayments of interest and principal over a specified time period) or sinking fund debt (annual interest is paid out of current revenue and amounts are deposited into a sinking fund that collects its own interest and is cleared out when the debentures mature).

FIGURE 12: Interest Rates in Canada
(Bank of Canada Rate, 1960-2002)



SOURCE: Statistics Canada Catalogue No. 11-210-XPB and Statistics Canada Canadian Economic Observer Catalogue No. 11-010-XPB, October 2002 and June 2003.

■ *Assessing the potential* Given that many western cities have drastically reduced their stock of debt since the mid-1980s, there is a certain amount of potential here to address infrastructure deficits by borrowing. This point is underscored by the fact that interest rates are at a 40 year low *(Figure 12)*. For cities that have low levels of tax-supported debt, there could be no better time than now to identify and fund critically needed infrastructure projects by issuing debentures.

Borrowing for infrastructure carries a number of advantages. First, it provides a measure of intergenerational equity in that it allows future generations who stand to benefit from infrastructure to also help pay for the infrastructure through interest and principal costs that will accrue down the road. Total "pay-as-you-go" funding for all tax-supported capital puts the cost on today's generation for benefits that flow well into the future. As such, the issue here is finding a tolerable balance, because complete debt financing also gives the generation building the capital stock a "free ride." Second, borrowing allows desperately needed infrastructure projects to proceed now, as opposed to deferring them until enough "pay-as-you-go" funds have accumulated. Third, debt can be a good financing option if it leverages more capital dollars elsewhere, whether through federal and provincial grants or the private sector.

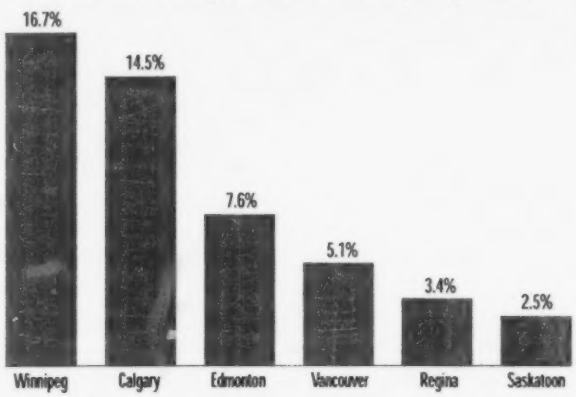
However, there are also downsides. Excessive borrowing for tax-supported capital can result in higher taxes down the road if the assessment base is not expanding sufficiently. In other words, tax-supported debt may simply defer taxes to some point in the future. Borrowing is also a more costly way to finance infrastructure projects because of the interest charged on outstanding debt, and it also carries a risk in the form of less fiscal flexibility in the future. Steadily increasing levels of tax-supported debt can "squeeze out" other program and future capital priorities, and if debt is relied upon too heavily, it can negatively impact bond ratings, which can result in higher borrowing costs and more difficulty in attracting investment.

Today, the most significant barrier to any increased use of debt is the current mantra of deficit and debt reduction, which makes the option politically difficult. But, the fact remains that there are good reasons for cities to assume modest levels of debt. It needs to be recognized that city budgets are very capital intensive. In 2000, Calgary spent $436 million on capital or 29.4% of its total outlay (Calgary 2000), while the Province of Alberta spent $1.6 billion or 9.2% of its total budget on capital (Alberta 2000). There is a big difference between borrowing for one-time capital projects and borrowing to pay the payroll. Of course, the problem is the public sees little distinction between the two.

Also, a completely debt-free city should not be the ultimate goal of fiscal policy, regardless of how well it plays politically. This is especially the case if the trade-off is an underfunded capital stock. The "pay-as-you-go" approach is arguably better for a city fiscally, but it may not contribute to the overall health of that city, which certainly encompasses more than the balance sheet. Of course, cities need to ensure that debt levels are sustainable and can be tolerated within the operating budget. Intuitively, it would appear that interest costs that consume only 1% of the operating budget (e.g., Saskatoon and Regina in 2002) may be too low.

In all likelihood, increased debt is an option that cannot be overlooked, but its potential is limited. First, western cities differ drastically in terms of their debt capacity *(Figure 13)*. Winnipeg

FIGURE 13: Principal and Interest on Total Debt, 2002
(Costs of Tax and Self-Supported Debt as a % of Operating Revenue)



SOURCE: Derived by Canada West Foundation from individual cities' 2002 Annual Financial Reports and Financial Statements.

spent almost 17¢ of every revenue dollar in 2002 to service its total tax and self-supported debt, and Calgary spent almost 15¢. For most cities, when the costs of servicing total tax and self-supported debt reach above 20% of operating revenue, it tends to become intolerable. In general, only Saskatoon, Regina, and Edmonton have substantial debt capacity. Vancouver appears to have considerable room as well, but the data do not reflect Vancouver's contingent liabilities for GVRD debt.

Second, most western cities have already moved to employ this option. Calgary has approved up to $350 million in new tax-supported debt over the next five years, while Edmonton could borrow as much as $250 million. Vancouver voters recently gave approval to almost $100 million in new borrowing, and Saskatoon recently issued $17 million in new tax-supported debt as well. Regina has not conducted any new tax-supported borrowing, but has not closed the option, and the City recently issued $40 million in debt for utility purposes. Only Winnipeg has put the brakes on any new tax-supported debt, reflecting high levels of past borrowing. In other words, a portion of the infrastructure deficits reported by the cities already assume increases in debt.

Of course, the argument can be made that even more debt could be issued. For example, even with the $350 million in new borrowing approved by Calgary, the level of tax-supported debt is still below limits set by Council (the costs of tax-supported debt will be 7.7% of tax-supported expenditure in 2004, below the limit of 10%). But at the same time, it needs to be stressed again that infrastructure deficits are both large and represent an ongoing shortfall. It is unrealistic to assume that financing the entire infrastructure deficit with sizeable and ever-increasing amounts of debt can solve the problem in the long-term, even if debt capacity exists.

Figure 14 projects total debt servicing charges (as a percent of total operating revenue) for each city based on past trends in revenue growth. The model assumes that the entire infrastructure deficit is closed by borrowing, that cities follow through with the borrowing anticipated in their current capital plans, and payments on older debt continue as per current amortization schedules. Within five years, Calgary, Edmonton, and Winnipeg cross a line where 15¢ of every revenue dollar is consumed by debt charges. Vancouver and Regina also show significant upward movement. Only Saskatoon could follow this approach past a five year time horizon, but eventually it too will cross the line.

In short, the use of debt does address a key driver of the infrastructure issue, and it should not be discounted outright. But cities also need to be cautious – debt provides short-term relief, and can likely address only a portion of the problem over the long-term.

8. Asset Sales and Other Sources

■ *How it works:* There is a limited amount of other sources of capital financing, primarily restricted to the sale of municipal assets and the proceeds or profits that cities earn from their land development activities. These sources can be a significant source of revenue, but they are also relatively sporadic and limited to one-time windfalls.

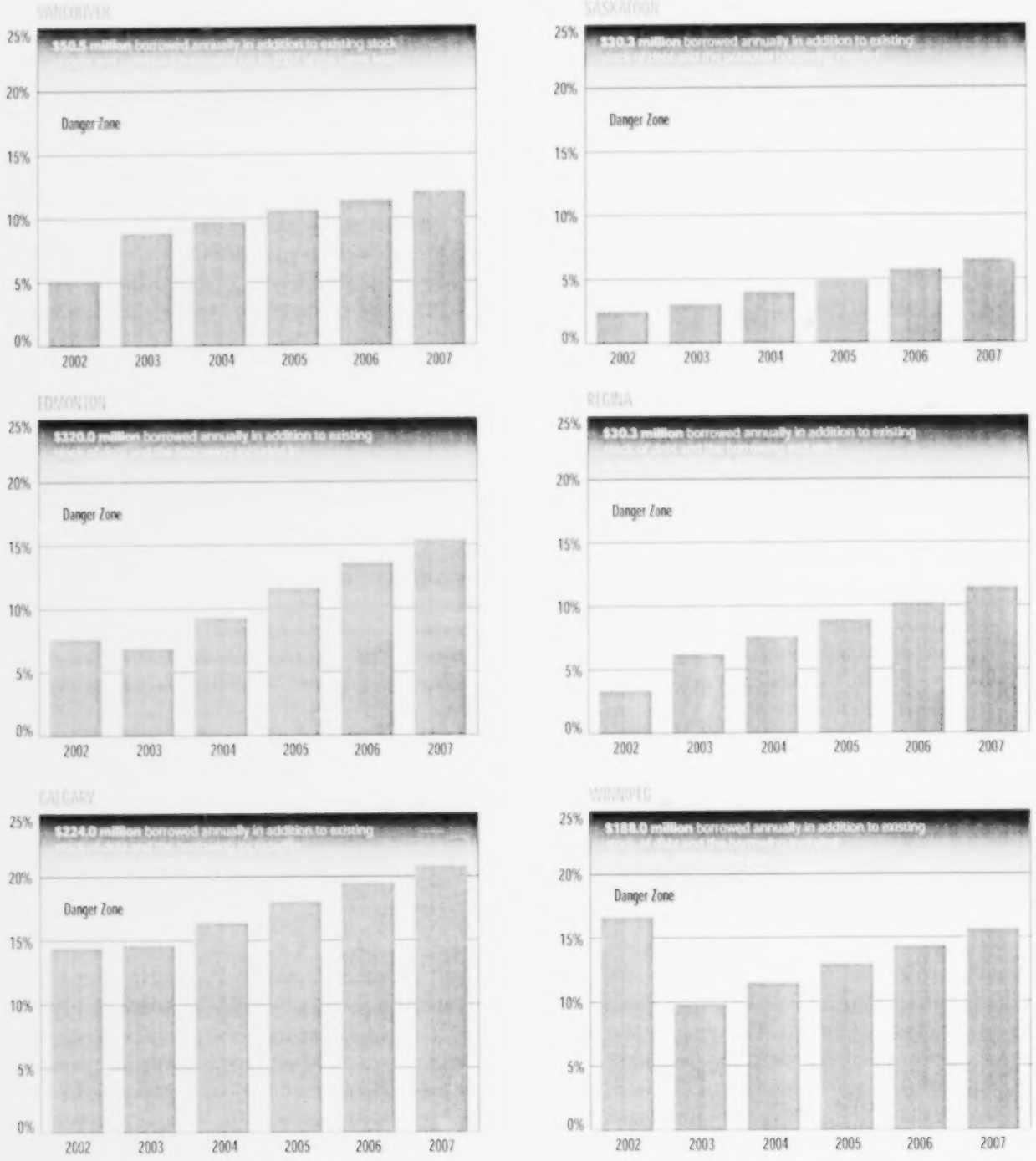
■ *Assessing the potential:* The potential of these sources is generally limited as many western Canadian cities have already engaged in significant asset disposals. Examples include the sale of Winnipeg Hydro in 2002 and the sale of EdTel by the City of Edmonton in 1994. Edmonton also divested itself of the Edmonton Municipal Airport, and turned over its water and electrical operations to EPCOR. All of these have served as a source of new capital to help fund city operations and infrastructure, and also reduced levels of self-supported debt. However, the potential of the option is limited to specific circumstances extant in certain cities. More important, for a number of cities, what can be sold has been sold.

SUMMARY: Traditional sources of capital financing tend to be quite narrow and limited. For the most part, any increased usage of these options implies higher property taxes, user fees and development charges, increased support from other orders of government, and more municipal debt. Attempting to close infrastructure deficits with these traditional sources alone is unrealistic and unsustainable in the long-term. More important, many of these traditional sources of financing fail to address some of the key drivers fuelling infrastructure deficits.

INNOVATIVE CAPITAL FINANCING

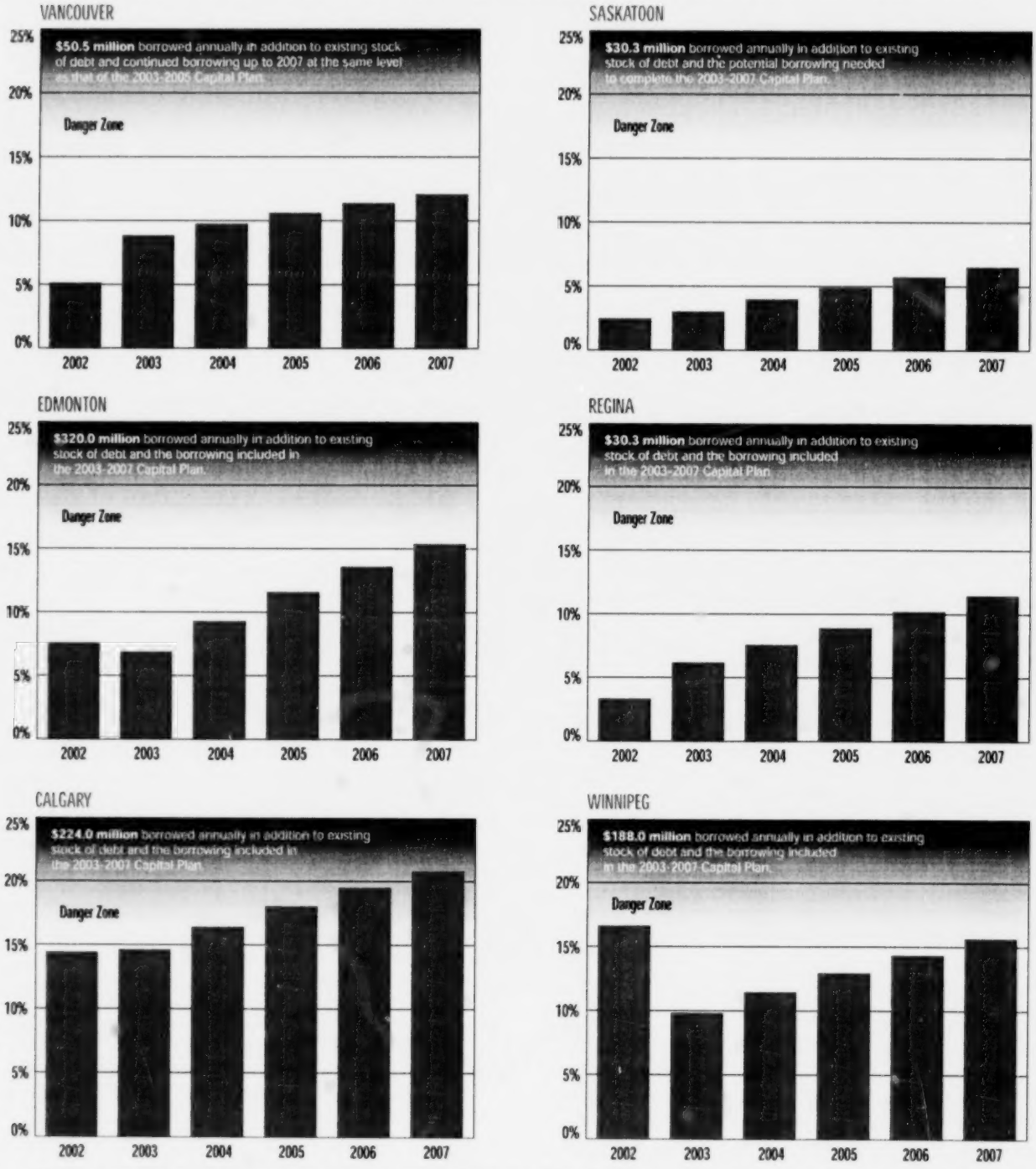
The term "innovative financing" is often used to describe a new approach to funding capital by using traditional finance tools in different ways. The idea behind innovative financing is not only to increase the amount of dollars available for infrastructure, but to compensate, control, and even reverse some of the powerful incentives and drivers that fuel infrastructure deficits.

FIGURE 14: Debt Service Charges as a % of Operating Revenues if Infrastructure Deficits were Eliminated by Borrowing



SOURCE: Derived by CWF from Cities' Annual Financial Reports and the current Capital Plans. Debt servicing costs (principal and interest) of existing debt over the next five years were first totalled and then averaged to yield a debt servicing cost for existing debt. Added to this total is the borrowing as outlined in each city's Capital Plan and borrowing to fully fund the reported infrastructure deficit in each city. Interest on new debt is 6.5% over a 20 year term. It is assumed that principal and interest is paid monthly, similar to a conventional mortgage.

FIGURE 14: Debt Service Charges as a % of Operating Revenues if Infrastructure Deficits were Eliminated by Borrowing


VANCOUVER
$50.5 million borrowed annually in addition to existing stock of debt and continued borrowing up to 2007 at the same level as that of the 2003-2005 Capital Plan.
Danger Zone
SASKATOON
$30.3 million borrowed annually in addition to existing stock of debt and the potential borrowing needed to complete the 2003-2007 Capital Plan.
Danger Zone
EDMONTON
$320.0 million borrowed annually in addition to existing stock of debt and the borrowing included in the 2003-2007 Capital Plan.
Danger Zone
REGINA
$30.3 million borrowed annually in addition to existing stock of debt and the borrowing included in the 2003-2007 Capital Plan.
Danger Zone
CALGARY
$224.0 million borrowed annually in addition to existing stock of debt and the borrowing included in the 2003-2007 Capital Plan.
Danger Zone
WINNIPEG
$188.0 million borrowed annually in addition to existing stock of debt and the borrowing included in the 2003-2007 Capital Plan.
Danger Zone
25%
20%
15%
10%
5%
0%
2002
2003
2004
2005
2006
2007

SOURCE: Derived by CWF from Cities' Annual Financial Reports and the current Capital Plans. Debt servicing costs (principal and interest) of existing debt over the next five years were first totalled and then averaged to yield a debt servicing cost for existing debt. Added to this total is the borrowing as outlined in each city's Capital Plan and borrowing to fully fund the reported infrastructure deficit in each city. Interest on new debt is 6.5% over a 20 year term. It is assumed that principal and interest is paid monthly, similar to a conventional mortgage.

1. Innovating With Property Taxes

While a heavy reliance on the property tax has arguably helped drive infrastructure deficits, it is the only substantial tax source available for cities. Some argue that it could better contribute to financing infrastructure if the tax were applied in different ways.

■ *Lower or eliminate the education portion of the property tax:* This has been a long-standing position expressed by numerous provincial urban municipal associations. With this approach, municipalities could move in and use the vacated tax room for infrastructure. However, the approach is not without its problems. Clearly, provinces would be forced to increase taxation elsewhere to fund the resulting revenue shortfall in education. But even more important, the move would simply increase an already heavy reliance on this one tax source and the disadvantages that come with it. In the long-term, cities would likely be better off in having access to a more diverse tax regime directly, as opposed to increasing their reliance on the property tax.

■ *Earmark property tax increases:* Property taxes could be increased, with the additional funds dedicated for infrastructure projects that have strong and widespread community support. Earmarking tax increases lessens public opposition by increasing the visibility of the increase and communicating the purpose behind it. Earmarking provides assurances that the increase will not simply disappear into general revenue. Earmarked fees for infrastructure improvements in municipal utilities are already employed, and are one reason why utility infrastructure tends to be in better shape than tax-supported infrastructure. The downside to this approach is the possibility of a growing tendency for taxpayers to want every type of increase earmarked, and without appropriate safeguards in place, the temptation remains to draw earmarked revenues into general revenues.

In western Canada, three examples of property tax earmarking stand out. The City of Saskatoon has recognized that what little property tax growth they have should support both operations and capital. To that end, the City allocates one-third of annual assessment growth to its capital base or "pay-as-you-go" envelope. Since 1998, the policy has resulted in an additional $1.3 million in annual funding for capital on an ongoing basis. In 1998, the City of Calgary implemented a 1.7% tax levy specifically to cover the interest on new tax-supported debt. Edmonton also imposed a 1% tax increase to pay for up to $250 million in new tax-supported debt.

■ *Combine earmarking with sunset clauses:* The earmarking of many types of taxes is a well established practice in many U.S. cities. Typically, property taxes are split between general revenue, special revenue funds, debenture funds, and pension funds. Sales tax revenues are also dedicated to support specific operations such as convention centers or the construction of projects like sports stadiums. But in the U.S., earmarking goes even further. Many cities attach sunset clauses to specific taxes that have been implemented and earmarked to pay debt on particular infrastructure projects. Once the debentures used to finance the project have been repaid, the taxes are terminated or renewed based on voter support for new infrastructure projects. In Canada, however, these lessons have been slow to catch on, and it drives taxpayer suspicion. For example, in 1995 the federal government increased the federal gasoline tax from 8.5¢ to 10.0¢ per litre as a deficit fighting measure. While the federal deficit was closed five years ago, the tax remains (Canadian Taxpayers Federation 2002).

■ *Devise a policy to address revenue inelasticity:* It is generally conceded that property tax revenues across the municipal sector have not kept pace with inflation or growth in populations and incomes (Vander Ploeg 2001). One idea is to employ a variant of the U.S.-style tax and expenditure limits (TELs), which prescribe the amount by which property tax revenues can grow year over year. In the U.S., TELs are designed to cap property tax revenue growth. But they could also be used in the other direction to form the basis of a new guiding principle for cities – an explicit policy of ensuring property tax revenues keep pace with incomes or some other measure of economic growth. For example, a city could pass a policy stating that property tax revenues should represent 3% of the total incomes earned in a city on an ongoing basis. This would remove some of the political wrangling over annual tax increases and limit the public and media's tendency to see any increase in the millrate as a tax "increase" when it may not be an increase relative to incomes. While there are obvious implications for taxpayers on fixed incomes, a system of property tax rebates and other measures could address some of this concern.

■ *Institute special area taxes or cascading levies:* Cities might also consider levying special taxes on properties that simply cost more to service and that drive the demand for infrastructure. As already noted, property taxes are assessed based on property type and do not vary based on the costs of delivering services or

providing infrastructure. To reduce urban sprawl and promote urban density, one can conceive of a set of special property tax levies on suburban properties, or a set of cascading taxes that gradually increase as one moves away from the city centre to the periphery. To be sure, such an approach could be immensely unpopular politically. Further, such taxes may not be allowed under provincial legislation, and there would also be difficulties in arriving at some quantifiable method of applying such taxes so that they actually reflect the variable costs that they are trying to capture. But the essential point remains: if the incentives inherent in the property tax are part of the problem, then measures must be devised that offer the potential to reverse some of those incentives. If the incentives and drivers are not addressed, one has not tackled the source of the problem.

2. Innovating With Reserves

■ *Reserves as a long-term planning tool.* It is not generally clear how innovative financing links up with the use of capital reserves. However, the experience of the City of Saskatoon does provide at least one example of a unique way of employing reserves, particularly with regards to future debt. When the City anticipates that debentures may have to be issued to finance a large infrastructure project in the future, Saskatoon tries to build a "debt charge base" well in advance of issuing the debt. Funds are accumulated over time, and when the debenture is issued, those funds are either used as a cash down payment to reduce the total borrowing requirement or used to help finance the debentures over the long-term.

BEST PRACTICES AND ALTERNATIVE FUNDING: The National Guide to Sustainable Municipal Infrastructure

The National Guide to Sustainable Municipal Infrastructure is an initiative of Infrastructure Canada being carried out by the National Research Council (NRC) and the Federation of Canadian Municipalities (FCM). In 2002, the partners jointly produced a report entitled *Alternative Funding Mechanisms: A Best Practice by the National Guide to Sustainable Municipal Infrastructure*. The guide, which aims to simplify technical material into easier decision-making concepts and principles, presents a number of alternative funding methods:

- **Special Levies:** The guide uses the term "special levies" to refer to funding tied to a specific service or project, with the levies being either time-specific (ending when the service or project ends) or continuing indefinitely. The examples provided include dedicated transit taxes, environmental levies and recapitalization fees on property taxes, and frontage levies for street, sidewalk and other repairs. Clearly, special levies are not a "new" or "alternative" funding mechanism, but they are a mechanism that could be used more fully by many cities. The advantage of special levies is that they are tied to specific programs or services, making them more transparent and therefore more acceptable to the public. For example, public support may not be as high for a levy that pays for a variety of programs (e.g., storm water infrastructure improvements) as for a levy that results in a specific facility installation or upgrade. The disadvantage of special levies is that they cannot be used for general revenue.

- **Development Fees:** Development fees refer to charges imposed on private companies building new developments to fund municipal infrastructure, and in some cases, to create a reserve fund for operations and future maintenance for infrastructure in the new developments. As the guide acknowledges, development fees are not a new funding mechanism, but rather are a funding tool that could be used more innovatively by municipal governments. The guide suggests that development fees can be used better to encourage higher density housing and discourage urban sprawl, and states that municipal governments could use development fees more strategically to create incentives for infrastructure-friendly development.

- **Utility Models:** A utility model exists when the user fees collected are dedicated to a particular service and that service is either self-financing or managed separately from other services. This cost-recovery approach is appropriate for services such as potable water, sewage, storm water, and solid waste. While the guide notes that utility models are used in a number of Canadian cities, their use is not as broad as it could be. For example, many cities lack full water metering. At the time, it was reported that Regina is the only major city to have fully implemented a storm water utility model (in 2003, Edmonton did as well).

In addition to these three options, the guide presents a number of other alternative funding mechanisms. These include sponsorships, innovative transportation revenues and incentives, government service partnerships, funding partnerships, strategic budget allocations, cost allocation to users, and demand management. Again, these alternative mechanisms are not particularly new or innovative. However, as the guide points out, each could be used more broadly.

SOURCE: National Guide to Sustainable Municipal Infrastructure (NGSMI). 2002. *Alternative Funding Mechanisms: A Best Practice by the National Guide to Sustainable Municipal Infrastructure*. (An initiative of Infrastructure Canada carried out by the Federation of Canadian Municipalities and the National Research Council). Canada.

■ *Link reserves and asset management.* Reserves do play a major role when it comes to matters of proper asset management and issues of life-cycle costing. Infrastructure analysts advise that cities should spend from 2% to 4% of the replacement value of all of their assets on a regular basis for maintenance and rehabilitation (Vanier 2001). Assuming a 50 year lifespan across the full range of asset types, another 2% is needed to ensure the assets can be replaced when they reach the end of their serviceable life (Vanier 2000, BDO Dunwoody and Associates 2001). Building reserves for future replacement of existing assets is a critical part of infrastructure management. Of course, the problem is freeing a certain amount of current revenues now to regularly contribute to replacement reserves. Perhaps all that can be said here is that cities need to ensure that new infrastructure projects have built into the upfront costs at least some consideration of the annual funds that must be invested into reserves for both maintenance and eventual rehabilitation and replacement.

3. Innovating With Capital Grants

Before any progress can be made with innovations and capital grants, three things need to happen. First, granting levels have to increase for a number of cities or the point is simply moot. This is particularly important for Regina and Saskatoon, which are the most reliant of all big western cities on own-source revenue for capital (Vander Ploeg 2003).

Second, federal and provincial governments need to ensure predictability and stability in the capital granting system, and this means a renewed recognition of the fundamental rationale behind grants. Grants should not be seen as "gifts" intended to display benevolence. Rather, there is a complex economic rationale behind them. When large cities are heavily reliant on property tax, grants are necessary for vertical equity – to close the fiscal gap between a slow growing revenue source and expenditures that might be growing faster. Grants are also necessary for horizontal equity – providing more resources for cities with an insufficient property tax base. But most important, grants are necessary to control for externalities and spillovers that naturally occur in large city-regions. Grants need to flow to large cities so they can provide services to a whole host of non-residents who pay property taxes elsewhere. Otherwise, the burden rests disproportionately on local residents. A steady and predictable flow of grants is more than "greasing" a squeaky political wheel. Grants are part of the fundamental financing of cities, and are also important for long-term planning.

Third, there is only one order of government in Canada that has the fiscal wherewithal to consider any significant and ongoing increase in capital grants. Municipalities are financially stretched, but so are many provinces. Fiscal simulations based on certain assumptions and the current dynamics in play in 2002 indicate that the combined territorial and provincial fiscal deficit could rise to $12 billion annually by 2020 with debt swelling from $242 billion to $387 billion. The federal government is in a much stronger position – a similar simulation to 2020 indicates an annual surplus of $86 billion and debt falling to $53 billion (Conference Board of Canada 2002). If increased and more predictable levels of granting are to come forward, along with a renewed commitment of their importance, then Canadians also have to work through the reality that the federal government has to play a substantial role. Assuming these things come to pass, there are three broad innovations that might be of assistance.

■ *Eliminate conditionality.* Moving toward unconditional block capital grants could provide a source of new revenue without increasing taxes. With conditional grants, governments spend money to create programs, review projects, file applications, negotiate agreements, and evaluate the results. Reducing such administration costs would yield new revenue in the form of efficiency and savings. From the municipal perspective, it would heighten local autonomy and also reduce the deadweight loss that occurs when local priorities are shifted. When priority needs are redirected to projects that are less desired, it results in a misallocation of resources and reduced efficiency. From an innovation viewpoint, unconditional grants would allow cities to experiment and apply the funds where they have the most impact. For example, most grants now form part of the annual "pay-as-you-go" envelope, but a city might find it advantageous to use that grant to offset borrowing costs for a desperately needed project. Another city might choose to save part of the grant in reserve, collect interest on it for a number of years, and then employ a much larger amount to fund an infrastructure project that is part of a long-term strategic plan.

Conditional grants mitigate against experimentation, but are often defended on the grounds of accountability or maintaining the provincial interest in municipal affairs. Loosening the strings, however, does not mean accountability has to end – cities can still report on the various uses of the funds. Some have defended conditional grants if they are tied to rewarding "smart growth" as opposed to sprawl. But given the advantages of unconditionality, it might be better to directly address such questions through legislation rather than indirectly through capital grants.

SHARING THE FEDERAL FUEL TAX

Recent discussions on a potential federal proposal to share with municipalities up to half of the federal government's 10¢ per litre fuel tax for infrastructure represents an innovative initiative. In most western industrialized federations, direct federal-to-local tax-sharing is rare. The degree of uniqueness, however, depends on whether the transfer takes the form of a grant that is simply tied to a specific tax source, or if it becomes real tax-sharing that includes point-of-sale considerations. Nonetheless, the mere suggestion constitutes a significant step in a new direction for Canadian federal-urban affairs (Vander Ploeg 2002c).

For municipalities, the value of such a proposal is clear. The federal government collected $4.8 billion in fuel tax in 2001, suggesting a $2.4 billion transfer if half of the tax is indeed shared. Its ultimate value, however, depends on certain details which remain unclear. Will the transfer be unconditional? Will the funds be available only on a cost-shared basis like many past federal initiatives? Will all urban and rural municipalities in Canada have access to the funds or will it be restricted to certain areas with the most need? Will funds be available only for transportation-related infrastructure or for other infrastructure as well? Most important, municipal affairs is an area of exclusive provincial jurisdiction. Will the provinces have to agree, and what might be necessary to win their approval?

A sharing of half of the federal fuel tax would amount to about $80 per capita on an ongoing basis. For western Canada's big cities, that could mean up to $46.2 million annually for Vancouver, $54.0 million for Edmonton, $72.4 million for Calgary, $17.1 million for Saskatoon, $15.0 million for Regina, and $50.5 million for Winnipeg. If the amounts were not restricted to transportation but could be applied across a wider range of infrastructure projects, they would fund between 14% to 20% of capital spending in Edmonton, Calgary, and Saskatoon over the next five years and just under 30% in Regina and Winnipeg. It would fund over 40% of the planned capital spending in Vancouver over the next three years.

When it comes to helping close big city infrastructure deficits, the value of half of the federal fuel tax on a strict per capita basis would solve about 17% of the problem in Edmonton and around 30% in Winnipeg and Calgary. It would clear out about 50% of the infrastructure deficit in both Regina and Saskatoon. A lot of Vancouver's problems would likely be solved, as the annual amount approaches 92% of that city's annual infrastructure deficit for the next three years.

- *Eliminate cost-sharing.* Requiring municipalities to come up with their own funds to access federal or provincial funds may not be the best way to proceed, particularly when municipalities have to struggle to come up with their portion. Putting an end to cost-sharing would allow cities wider access to financing and allow them to leverage those funds with other sources.

- *Link grants to specific tax revenues.* To ensure a level of granting that is sufficient and predictable, governments could pursue a more formalized system of capital grants that reflects an actual sharing of revenues. This would provide cities with indirect access to a much wider range of tax revenue that would also grow over time. This innovation is clearly starting to gain currency in Canada. The federal government is contemplating a revenue-sharing deal with municipalities based on the federal fuel tax (see sidebar). In 1999, the Province of Alberta agreed to base a new set of capital grants on a portion of the provincial fuel tax to the Cities of Edmonton and Calgary. The regional transit system in Vancouver also receives a portion of the provincial fuel tax. Governments may be hesitant to earmark specific revenues fearing a loss of flexibility, but the rationale for such a system is not the "locking-in" of an expenditure – it is revenue-sharing. Clearly, issues of accountability would remain. But that may be the trade-off required to avoid the perils of less workable options.

The most significant barrier in all of this is federal and provincial agreement to some drastic changes. These governments first need to understand that they too receive a return on capital grants. Through their various taxation mechanisms (particularly income taxes, fuel taxes, and GST) at least a portion of the grant eventually comes back in the form of tax revenue. Cities and municipalities are not the sole beneficiaries. In fact, everyone stands to benefit from a new system that is more dynamic, predictable, and open to innovation – it ensures that funds have maximum impact.

4. Innovating With Improvement Levies

Local improvement levies are likely being used to their maximum effect given their strong advantages. However, cities should also watch closely what is happening in Winnipeg with the public consultations on the "New Deal" proposal. Winnipeg has undertaken a bold initiative at municipal tax reform, seeking to drastically cut property taxes and replacing the lost revenue with a different mix of taxes and user fees. One component of this plan speaks to increasing frontage levies as part of the swap.

Such a move begins to sort out some of the reverse incentives highlighted earlier, and is part of a process that may have merits that go well beyond the local situation in Winnipeg. As the *National Guide to Sustainable Municipal Infrastructure* argues, increased usage of local improvement levies, wherever feasible, should be part of any broad policy directing local municipal infrastructure plans (NGSMI 2002). In Calgary, for example, some local communities have agreed to special tax levies to maintain parks and community spaces at a higher standard.

5. Innovating With Developer Charges

There is considerable debate in the policy community about who really bears the burden of developer charges - the developer in the form of lower profits, the new homebuyer in terms of more costly housing, or even workers in the form of lower wages. Despite this ongoing debate, there are three specific innovations that often emerge in the literature aside from a simple across the board increases in the charges.

■ *Additional levies for off-site costs and future maintenance.* Developer charges are applied to new developments in order to capture the costs of "on-site" infrastructure – local roads, water and sewer, and sidewalks. But new developments also imply "off-site" infrastructure as well – the need for interchanges, expanded freeways, and a variety of civic structures like fire halls. Some suggest that additional levies for these "off-site" costs are warranted because "on-site" costs do not represent the full infrastructure cost to the city. Some have also argued for additional levies to form part of the up-front charges because cities have to maintain and replace the new assets and future property taxes may be insufficient to cover those costs. A recent amendment to Alberta's Municipal Government Act provides an example – cities now have the right to apply additional levies to fund transportation infrastructure into developing areas.

If one believes that new developments should pay for themselves, such an approach would appear to make sense. However, the approach depends on current legislation and even local by-laws that could limit these types of charges, and the reaction of developers themselves may not be positive. But even more important, if developer charges become too high, it could encourage increased development in adjacent communities where the charges are lower. Cities would lose the revenue from the charges while at the same time having to provide more infrastructure for commuters who are not paying for it (Connery 2003).

■ *Front-end developer charges.* Increasing developer charges and including "off-site" costs presents a number of hurdles. But, there may be other ways to tap this source. The concept of "front-ending" allows infrastructure to proceed in advance of development. For example, in 2001, developers in Calgary loaned $30 million, interest free, to the City for transportation infrastructure. In exchange, the City lifted a development cap in a specific area (Heyman 2001). Edmonton also front-ends the construction of trunk sewers and associated systems in private development areas. With this approach, cities will have to stress that the desire is to secure better timing for receiving funds – the approach is not a covert plan giving developers the right to set municipal planning and land-use policies, or to exploit the city's right to issue development approvals.

■ *Charge differential development fees.* Lower density developments carry higher infrastructure costs than higher density developments. Projects in the inner city, such as infills and brownfield redevelopment, cost less than new development because of the existing infrastructure. An idea now catching on is to charge differential development charges to better reflect these differences in cost and attempt to direct growth to areas where infrastructure is underutilized or less expensive to provide. All of this, of course, implies a shift away from average cost pricing to marginal cost pricing. For reasons of administrative ease, many cities choose to charge average costs even though the approach is inefficient and may promote an over-supply of low density development (CD Howe 2002, Tomalty 2000).

If cities are serious about curbing sprawl and the higher infrastructure costs that it produces, then a rethinking of development charges is in order. At the same time, any discussion about adding new charges or changing how they are applied will inevitably intensify an ongoing debate. Developer charges promote "pay-as-you-go" and allow new development to help pay for itself, but some argue against the impact on affordable housing and the fact that new homeowners may actually be subsidizing existing residents for improvements that benefit everyone. Others argue that cities can borrow less expensively than private developers and so charges should be waived and costs recouped through property taxes (Canada Mortgage and Housing Corporation 1999). Finally, because the charges increase the cost of new housing, existing housing becomes more attractive as a substitute. This causes older home prices to rise, providing a benefit for existing residents at the expense of new homebuyers (Kitchen 2002a). In short, the benefits appear to be obvious, but getting there is no simple matter.

6. Innovating With User Fees

Infrastructure funded by user fees is less problematic than infrastructure funded through the tax base because user fees are attached or earmarked for specific services. This is one reason why municipal utilities are typically in better condition than other forms of infrastructure (Vander Ploeg 2003). Since it is much easier to finance infrastructure improvements in areas that can be funded through user fees, an obvious innovation is to expand the amount of services and infrastructure to which fees are attached.

■ *Create new self-financing utilities out of tax-based services:* Undertaking an inventory of existing services currently financed by taxes and conducting feasibility studies to see which services can be converted into self-financing utilities through user fees can free up room within the tax base for reinvestment elsewhere. Cities across western Canada are now beginning to explore this option quite vigorously. For example, Vancouver converted its sewer operations into a utility in fiscal 2000. In that year, only 22% of the costs were derived from user fees with the rest covered by general property taxes. By 2001, the utility expected to be financed 45% by user fees. Unlike many other cities, Vancouver also runs its solid waste operations as a completely self-financing utility. In 2003, the City of Edmonton converted its storm water drainage services into a new utility operation.

Winnipeg has been the most aggressive city when it comes to this approach. In the late 1990s, the City undertook a review of some 195 municipal services to identify which ones could be delivered through user fees and even serve as possible candidates for delivery outside of government (City of Winnipeg 2000). To date, three "special operating agencies" (SOEs) have been created including animal services (2000), the materials services branch of the public works department (2001), and golf services (2002). All of these are now operated as separate business units.

■ *Consider charging differential fees for non-citizens:* Given that outsiders often use a number of city services but pay taxes elsewhere, a strong case can be made for charging differential fees to non-residents. The approach may only be practical for those services where users can be easily identified (e.g., recreation facilities). Driver's licenses or a "civic citizenship card" could be used to separate those who should pay less and those who should pay a premium for accessing certain services. Calgary follows this approach with its library fees – non-residents pay higher user fees for library services than citizens of Calgary.

7. Innovating With Debt

Much of the innovation in infrastructure finance today revolves around new public borrowing tools and the emerging concept of sustainable, optimal, or "smart" debt. While the merits of these ideas are vigorously debated, it is a necessary step in rounding out any discussion of innovative infrastructure finance.

■ *Governments need to explore more avenues:* Aside from the traditional municipal debenture are other borrowing mechanisms such as community and tax-exempt municipal bonds. In the U.S., some cities also have access to special state-operated infrastructure banks. The idea behind all of these mechanisms is to either lower the costs of borrowing or to secure improved access to more sources of capital (see pages 26 and 28).

■ *Put Canada's AAA rating to use:* While most big cities in Canada borrow on their own or through various provincial financing authorities, neither may constitute the least expensive option. First, few cities retain their own AAA rating. The only city in the West that does is Saskatoon. Second, most provinces do not have an AAA rating. The question is, would the creation of a large municipal capital pool through the federal government's AAA bond rating be an attractive option? The idea remains a question at this point because the potential savings are evident, but it is not clear how such a system could be operationalized. At the same time, taking advantage of an AAA rating would lower costs while entailing no significant outlay to either the federal or provincial governments – only loan guarantees.

■ *Begin employing "smart" debt:* The notion of "smart" debt is increasingly becoming part of the debate over innovative financing. Smart debt recognizes that borrowing is a valid form of infrastructure financing and sets out broad parameters on how cities should borrow. Typically, the idea comprises four components. First, smart debt recognizes that not all capital projects are equally well-suited for tax-supported debt financing. Appropriate candidates include large projects involving substantial sums and that also provide well-defined benefits to the community. Such projects are one-time or non-recurring in nature, they have long asset lives, and can also leverage additional financing elsewhere.

Second, smart debt identifies a sustainable level of borrowing or some notion of optimal debt relative to future operating budgets and anticipated growth. In other words, smart debt requires cities to work through the subjective question of their tolerance for debt.

COMMUNITY AND TAX-EXEMPT BONDS

The borrowing mechanisms open to Canadian cities are generally limited to the traditional debenture issued in the financial market or secured through a provincial municipal lending agency. However, there are other approaches to consider:

- **Community bonds:** Here, cities raise a portion of their financing from within the local community. Community bonds recognize that some citizens value the opportunity to help build their own city, and are willing to forego some interest earnings for the sake of making a contribution. Cities benefit from lower borrowing costs, which then leads to lower project costs, which can then lead to lower property tax rates and even more affordable housing (CMHC 1999). If lower borrowing costs help relieve pressure on the local tax base, this would also allow local businesses and firms to become increasingly competitive (Kitchen 2002b). Finally, lower borrowing costs may encourage cities to reduce an inherent reluctance to engage in modest debt financing.

- **Tax-exempt bonds:** Tax-exempt bonds (TEBs) are used extensively in the U.S. These bonds can be issued by cities at an interest rate below market value because the earnings to the bondholder are exempt from income tax. From an investor's perspective, TEBs are attractive because of the tax advantage and they are more secure than other investments because they are backed up by a tax base. TEBs are generally seen as predictable, liquid, and offering a good rate of return. Because the take-up rate for TEBs is generally good, cities benefit from greater access to financing at a lower rate of interest which decreases their costs. Some argue that TEBs are more accountable than funding out of the general property tax base because they are issued at the onset of a project and expire when the bonds are repaid (Kitchen 2002b). Others point to how well TEBs are politically received – they have a strong correlation to specific project developments and general economic investment.

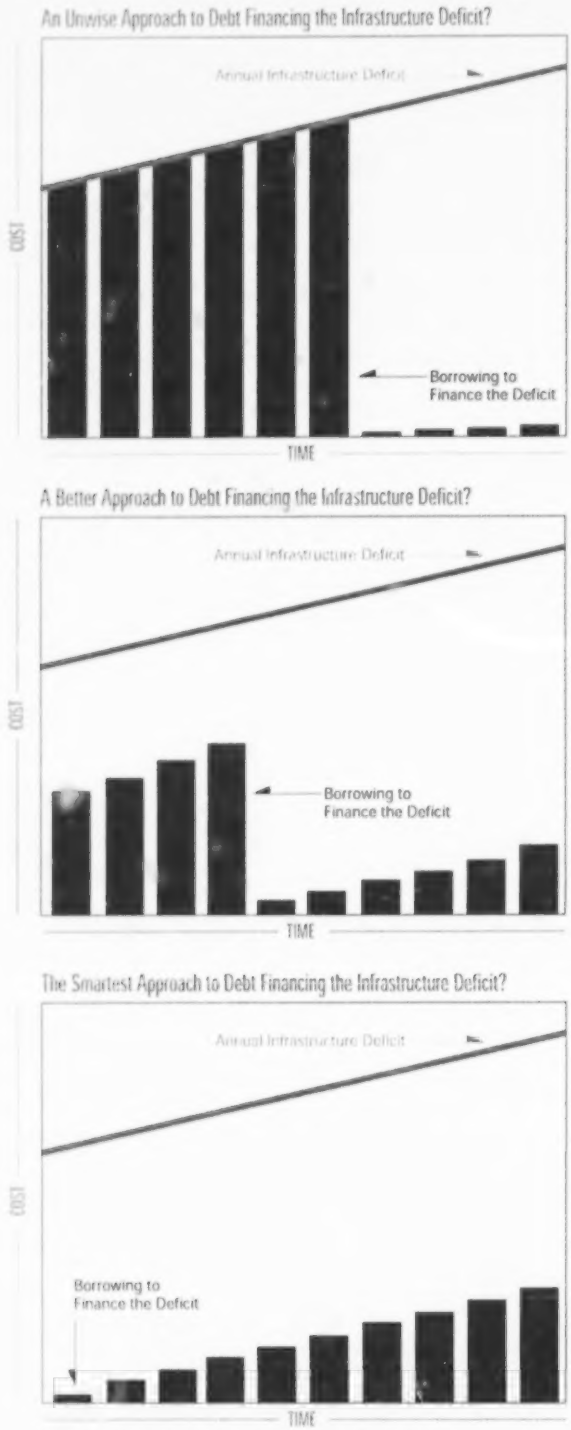
  However, considerable debate exists about the overall merits of tax-exempt bonds. Some argue they disproportionately benefit higher-income earners who can afford to invest and the overall return in terms of tax savings is greater for the wealthy as they are in a higher tax bracket. In essence, government is subsidizing the bond issuer while transferring wealth from all taxpayers to higher income earners via foregone tax revenues. If only certain cities and towns have the ability to issue TEBs, a similar subsidization effect occurs. Some also argue that TEBs can artificially increase the role of the public sector (Bech-Hansen 2002). Finally, transaction fees paid to brokers and bond traders would reduce at least some of the gains that municipalities would receive (Mintz 2002). Most important, financial experts suggest that TEBs could generate significant distortions in the bond market by cannibalizing the investor base for other bonds that are taxable (Bech-Hansen 2002).

  Several barriers to TEBs in Canada are often mentioned. First, provincial and federal governments would have to amend existing tax legislation and would have to deal with foregone tax revenue (Kitchen 2002b). The market in Canada may not be large enough to support TEBs. Pension funds, RRSP investors, and governments currently hold 65% of municipal debt in Canada, and would likely not invest in TEBs because they cannot realize the tax benefits. This could lower the number of potential investors and actually force the interest rates of TEBs upwards (Toronto Finance Committee 2000). Further, the U.S. market for TEBs is likely larger than Canada's because the U.S. has a lower contribution ceiling for tax-protected retirement investments, which frees up more funds for TEBs as a tax-free alternative (Tuck 2003).

  The disadvantages and barriers to implementing TEBs are not without their rebuttals. First, the current RRSP program creates a clear benefit for higher-income earners, but that is tolerated because of the importance of ensuring adequate retirement income. Local infrastructure, it is argued, has a similar importance (Bech-Hansen 2002). Any subsidization effects of TEBs could also be offset by significant spillovers in that lower borrowing costs and more and better infrastructure benefits the entire population (Kitchen 2002b). While Canada has higher RRSP limits than the U.S., the value of a TEB tax break is also higher in Canada because of higher marginal tax rates. Finally, proponents argue that distortions in American bond markets do not appear to be an issue (Bech-Hansen 2002).

  In the final analysis, the merits of tax-exempt bonds are generally clear, but any decision to go that route does involve some significant trade-offs, particularly with regards to questions of equity. In the U.S., those trade-offs are generally perceived as weighing in favour of TEBs. The debate over this financing instrument is a relatively recent addition to the larger debate over urban finance questions in general. At the end of this discussion, a stronger and more clear consensus one way or the other may emerge.

FIGURE 15: Identifying a "Smart" Debt Strategy



SOURCE: Conceptual options developed by Canada West Foundation.

For example, in February 2002, Calgary implemented a new capital financing policy that allows for up to $70 million in new tax-supported borrowing annually for the next five years. But, strict limits have been set – the cost of servicing all tax-supported debt may not exceed 10% of tax-supported expenditures. In October of 2002, Edmonton also approved a new debt policy. Total debt charges are not to exceed 10% of city revenues and debt charges for tax-supported debt are capped at 6.5% of the tax levy. Debt-financed projects must be worth at least $10 million, have an asset life of at least 15 years, and must fit into approved capital plans.

Third, smart debt sets out policies regarding debt structure and amortization. Such policies speak to the use of serial or sinking fund debt, and structured, retractable, bullet or regular amortized debt. Each carries varying costs and implications. Further, debt amortization terms (e.g., 10, 20, 30 years) are not set arbitrarily or with the sole consideration being lowest cost. Rather, amortization terms reflect the life of the asset. Amortization terms today tend to be in the 10 to 20 year range, but in the past, they have stretched out as long as 30 years.

Finally, smart debt recognizes that debt only finances infrastructure, but the debt itself must be funded. Before issuing debt, cities draw up a comprehensive repayment plan. For example, Calgary implemented a one-time special property tax levy of 1.7% in 1998, which has been earmarked to fund certain borrowings. Edmonton did the same with a special 1% tax levy.

Conceptually, there are three steps to addressing infrastructure deficits. First, growth in the deficit needs to be arrested. Second, the deficit needs to be closed. Third, the accumulated infrastructure debt needs to be addressed. The potential of debt is likely restricted to the first step. *Figure 15* shows three options. The first sees the entire deficit (the blue line growing over time) financed in the short-term by debt. Debt levels quickly bump up against a previously set tolerance level and borrowing can grow only incrementally – the deficit reappears and its size continues to grow. Little has been gained. A second approach sees robust borrowing over the short-term after which the pace slows to keep debt levels tolerable. This addresses immediate high priority needs, but may or may not arrest long-term growth. The third approach recognizes that a city can borrow a certain amount each year against an operating budget that tends to grow as well. If borrowing proceeds at a slightly slower pace than even the most modest of growth in operating revenues, then the costs of servicing debt relative to the budget do not rise and debt can be used more effectively over time. This may have the potential to arrest some of the growth in the deficit over the long-term.

SUMMARY: Innovating with traditional capital financing sources does offer potential for addressing infrastructure deficits. However, the innovations do require some significant changes, and the degree to which they will help is not altogether clear. The question is whether spending significant amounts of energy here can really generate a big enough pay-off. More important, the degree to which any innovation will help is highly dependent on how well it addresses the drivers of the infrastructure issue itself. In short, there could be a real need for more systemic reforms.

SYSTEMIC REFORM

Drawing the line where innovation ends and systemic reform begins is not easy, although there is a sense that the latter includes proposals that depart more radically from traditional approaches. In 2002, Canada West Foundation published *Framing a Fiscal Fix-up*, a detailed discussion paper to stimulate debate on five specific alternatives that would strengthen urban finances, but do so through some rather dramatic departures from the status quo. The five options included:

- *Focusing on core responsibilities and priorities*
- *Setting correct prices for services*
- *Creating efficiencies through competitive service delivery*
- *New approaches such as public-private partnerships*
- *New tax tools and fiscal room to innovate*

The strength of these alternatives lies in the fact that they directly address the fundamental causes and drivers of some important urban finance problems. Many of the options speak to relieving fiscal pressures on the operating side of the budget, which can then free up resources to address infrastructure. A brief synopsis of the main points in this earlier report, combined with practical examples, demonstrates significant potential if the political will can be found to start moving in several new directions.

1. Focus on Core Priorities

Municipal government exists to facilitate local decision-making with a focus on providing services to property and addressing local needs (UBCM 2001). In other words, city governments cannot be "all things to all people." While many concerns can be tagged as "urban issues", it does not follow that local governments should be responsible for them, especially given the limitations of the property tax. Because cities are under intense pressure to widen their activities at the same time they remain in a highly restrictive fiscal environment, cities need to keep the focus on traditional local priorities.

INFRASTRUCTURE BANKS

Infrastructure banks are special state-run lending institutions in the U.S. that were created with *federal* grants to finance municipal infrastructure. In some ways, these banks operate similar to provincial municipal finance authorities in Canada, which borrow on behalf of a number municipalities to secure lower interest rates.

At the same time, infrastructure banks do operate somewhat differently and may carry some unique advantages. For example, low interest loans are guaranteed by the bank's reserves rather than the credit of the municipality, and short-term construction loans are often available to maintain liquidity in the event that a project goes over budget. Further, interest-only loans are provided where the principal is repaid only when projects that result in a new stream of revenue actually begin to earn money. Most important, infrastructure banks effectively recycle federal grants to finance more capital projects than can be financed through a direct subsidy.

On the downside, infrastructure banks are often used to finance projects that result in the creation of a new revenue source, such as a toll road or utility system. These types of projects can be limited, unless a radically new approach to certain types of infrastructure is taken. Legislative amendments would certainly be required and municipalities themselves may not be interested in substituting any direct federal assistance for access to low interest financing. From a federal perspective, transferring a lump sum grant provides more recognition than setting up a bank, and many large western cities are still somewhat reluctant to engage in borrowing. Finally, creating infrastructure banks requires a significant initial grant and involves set-up costs, a certain amount of financial and managerial expertise, as well as market credibility and public support.

As a result of these downsides, some have suggested that one alternative to establishing a revenue-generating infrastructure bank is one that simply operates as a long-term subsidy. Here, the infrastructure bank would be established by federal funds, and then issue interest free loans that only require municipalities to repay the principal. This would certainly reduce municipal adversity to debt financing, and would reorganize grant funding so that it is gradually diminished over time rather than spent in one lump sum. The worry, of course, is that capital markets could become distorted and the ability of the infrastructure bank to issue debt on its own behalf is compromised over time because the value of its assets and future revenues is being consistently reduced.

SOURCE: Crockatt, Michael A. and Prentice, Barry E. 1999. *Infrastructure Banks: Innovative Financing for Tapped out Transport Budgets.* Transport Institute, University of Manitoba. Winnipeg, MB.

■ *Advantages* A more limited focus helps close the structural fiscal gap that inevitably builds whenever financial resources are unable to meet expenditures spread over a wide range of activities, and a more clear definition of roles and responsibilities enhances accountability. If cities can distance themselves from what is arguably a very confusing web of functions, they would find themselves better able to sidestep pressures to expand expenditures.

■ *Disadvantages* All of this is much easier said than done. If cities completely disengage from certain services they feel are inappropriate (e.g. income redistributive issues such as homelessness or urban Aboriginal issues) and the other orders of government refuse to pick them up, Canadians are simply left with the spectre of a group of rising urban problems no one is addressing. Disentanglement is clearly an ideal, but despite the logic of a sharper focus, distinguishing between services that are local and those that are not is difficult (Tindal and Tindal 2000).

■ *Moving Forward* Disentanglement requires the participation of other orders of government, and they may be unwilling – many of these exercises in the past have not met with success (Kitchen 2000). At the same time, cities can move ahead by identifying priorities and ensuring their policies are working in the same direction. Lobbying for a more clear definition of roles through provincial and national associations should continue, and cities should insist that any services being pushed down will be preceded by consultation and a commitment for predictable financial compensation over the long-term (AUMA 2001a, 2001b, UBCM 2001). If it proves difficult to vacate an activity, cities should try and limit their activities to non-financial involvement. For example, provincial and federal governments could be encouraged to deal directly with community non-profits that may be better positioned to undertake certain activities given their specialized expertise in community-based solutions. Finally, cities could undertake a comprehensive review of all their services to identify areas unrelated to core competency or that generate uncontrollable externalities, and seek to upload those to the province.

This reform is specifically designed to ease pressure on the property tax base and the city's operating budget. This will allow a sharper focus and more funds to be shifted to capital. While success here is not guaranteed, it is often mentioned as a first step in recovering the essential purposes of municipal government.

EXAMPLES: Recent Uploads

Calgary: Responsibility for maintaining several urban freeways such as the Deerfoot Trail and Stoney Trail were recently uploaded to the Province. Some suggest that more could also be done. For example, Calgary is currently responsible for maintaining those portions of Highway 8 that run through the City.

Alberta Rural MDs: Responsibility for maintaining secondary highways in rural municipalities was taken over by the Province.

Vancouver: Responsibility for financing certain community health services was uploaded to the Province of BC and swapped with increased responsibility for regional transit.

Winnipeg: Certain aspects of social service delivery were uploaded to the Province of Manitoba and grants associated with the services came to an end. The potential of uploading city EMS services was also discussed, but not undertaken. Rather, a new cost-sharing formula was devised where ambulance services are now covered 50% through user fees, 25% through city property taxes, and 25% through provincial grants.

2. Start Aggressively Pricing Services

If a focus on core priorities speaks to *what* cities should be doing, correct pricing speaks to *how* they should be doing it. The thrust here is three-fold. Cities should not only innovate with user fees by moving more services to user pay, but also begin charging individual users the full marginal costs of services wherever possible. This is especially the case with under-priced utility services that have promoted urban sprawl and led to over-consumption and increased infrastructure demand. It also speaks to some form of property tax reform, such that the costs of servicing different properties are better reflected in the taxes paid. All of this is not about raising revenue, achieving cost-recovery, cost-effectiveness or cost-containment. Rather, it is all about ensuring individuals pay the costs of what they consume to increase efficiency and discourage waste (Kitchen 1993, 2000).

■ *Advantages* Correctly priced user pay systems promote effectiveness, equity and efficiency. People pay for what they use and the right amount of service is provided for the right price. User pay quickly dispels the myth that public goods are free and creates a new dynamic as people cut back on consumption to save money. User pay forces people to realize the actual costs of their behaviour, and even where they choose to live.

■ *Disadvantages.* If a gain in efficiency is the advantage, then a loss of distributional equality is the disadvantage. User pay is regressive – it provides for equity but not always equality. Further, user pay for some public goods and services can create new problems. For example, if solid waste collection is converted to user pay, some people may try to avoid the fees through illegal dumping.

■ *Moving Forward.* Traditional methods of municipal financing exert strong control and the status quo is heavily defended on the grounds of equality, being surrounded by interests with significant sums involved. For example, commercial properties are typically over-taxed relative to residential properties even though there is no reason for this as far as costs are concerned. But residential taxpayers know how much property tax they pay and will resist any attempt at shifting the burden to better reflect costs. Likewise, increasing the tax burden in the suburbs to better reflect the higher costs of services and infrastructure would hardly be popular. Such reforms will necessarily result in drastically increased costs in certain areas of a city and much lower costs in other areas, leading to significant fiscal dislocation. As such, cities need to make rational pricing and property tax reform a long-term objective to contain sprawl and end over-consumption. As a start, city officials need to identify services that provide significant private benefits and produce the fewest negative spillovers (e.g., water, sewer, recreation facilities, libraries, museums, solid waste service) and expand user fees based on marginal cost pricing with a commitment to corresponding reductions in taxes. Variable effective tax rates that reflect costs need to be considered, and research must begin now on how activity-based cost accounting, currently being developed across Europe and the U.S., can be implemented to measure costs (Goldsmith 1998).

3. Competitive Service Delivery

Many argue that correct pricing is only a partial solution because local governments also act as monopoly providers of goods and services. Because of the lack of competition, there is little incentive for efficiency and productivity and the result is higher costs (Parsons 1994). Monopoly provision is often defended on the grounds that municipal services are public goods and therefore must be provided publicly, or they possess such large economies of scale that there is room for only one delivery agent. However, many local services actually possess diseconomies of scale, especially those that are labour intensive (e.g., solid waste disposal). In fact, up to 80% of all municipal services may not possess economies of scale at all (Bish 2001). An ongoing idea for reform consists of opening municipal services to competition

EXAMPLE: Tolling the Road

Traffic congestion, the costs of subsidized transit, continual demands for more roads, and the infrastructure deficit in transportation are quickly becoming perennial urban challenges. Most of this is directly linked to a lack of pricing. Options such as "high occupancy vehicle" (HOV) lanes to end congestion and limit demand are often suggested, but they swim against the current – the root of the problem remains.

The "free" road has traditionally been seen as a public good that yields private benefits and carries huge public costs, but simply cannot be priced. But this is changing. Tolls on road-related infrastructure across Europe and the U.S. are rapidly becoming a viable alternative, turning the public road into a full cost recovery enterprise like other utilities. Tolled roads and bridges are fast becoming self-financing – the costs of debt taken on for construction is covered by users who willingly pay the toll. Variable tolls and peak pricing are reducing congestion and air pollution, and drivers who must now pay for the actual costs are turning to other alternatives whether that be transit or car pooling. Tolls are limiting the "free-rider" problem of those in bedroom communities and suburbs who freely "commute and pollute" their way into the city, and are also allowing city coffers to recover some of the costs that accrue from outsiders who drive their way through on someone else's property tax dollar.

Traditionally, tolls have failed to be a significant factor within the urban context simply because of the sheer availability of other routes to avoid the charge. However, the merger of new information communication technologies and intelligent transportation systems (ITS) are allowing for the efficient use of transport demand management tolls within urbanized regions via the electronic toll road (ETR). Recognition of vehicles is maintained through electronic transmitters that are purchased by drivers. Driving information is transmitted to electronic readers across the high-tech system and bills are sent regularly in the mail. Video cameras capture the license plates of vehicles without transmitters and bill them as well.

Toll revenues alone may not cover all the development costs of such systems as a certain critical mass of vehicles is required before any tolled road, network of roads, or bridges can be self-financing. But that does not mean cities should simply throw their hands up and continue with current practices. Tolls can still help offset a portion of construction and maintenance costs, and public resistance can be fought with the fact that if tolls are not employed, the infrastructure simply cannot be built. The success of the Coquahalla Highway in BC and Highway 407 in Toronto should not be ignored. The 407 is an excellent example in that it is privately owned by SNC Lavalin, an engineering firm in Montreal.

SOURCES: Gjertsen 1995, Samuel 1995, O'Donnel 2001, Palda 1998a, 1998b.

NOT JUST THINK TANK FANTASY:
The Experience of Indianapolis, Indiana

Indianapolis is the 12th largest city in the U.S., with a population of just under 1 million. In the early 1990s, the City was faced with a substantial budget deficit and a $1 billion backlog of desperately needed infrastructure repairs and extensions. A new mayor and council had just been elected, and were committed to holding the line on taxes. The new mayor, Stephen Goldsmith, decided to spearhead an aggressive agenda of fiscal reform that included the privatization of municipal services as one way to secure budget savings that could be reinvested in infrastructure. As discussions over a reform agenda progressed, the City came to realize that the real issue was not whether municipal services were provided privately or publicly, but that services were delivered in a competitive environment where efficiency and productivity incentives ensured that costs were kept reasonable and service quality was maximized.

As a first step, the City decided to open up the management of its wastewater treatment plant through a competitive bidding process (Goldsmith 1998). The competition went out to international tender, and one of the largest water management companies in the world, Lyonnaise des Eaux of France, won the bid. The competition resulted in a 44% annual savings to the City representing about $150 million (U.S.) over the 10 years of the management contract (Frontier Centre 2001). In winning the bid, Lyonnaise agreed to accept current public union workers and part of the original management team. The city retained ownership of the plant itself, but contracted out the management. This initial success soon started a drive to open as many services as possible to competitive bidding between city employees and the private sector.

By 1999, Indianapolis had established itself as one of the most innovative cities in the U.S. Working with international consultants, the City began a process of "activity-based cost accounting" to uncover the actual costs of delivering specific services and then opening them to competitive tender. A total of 85 municipal services were eventually bid out, including solid waste management, trash collection, pools and recreation centers, golf courses, and the municipal airport. In terms of hard dollars, the reform agenda resulted in a 25% savings to the overall operating budget and a 400% increase in reserves (Harry Walker Agency 2002). As of 2001, it is estimated that Indianapolis had saved over $450 million in operating costs spread over 10 years. Specific examples include $65 million saved in solid waste management over five years, $15 million saved in trash collection over three years, $8 million saved in the maintenance garage over five years, and $1.2 million saved annually in billing for the sewer utility (Bearing Point 2003). About 75% to 80% of these savings were then leveraged with other financing sources to support a long-term infrastructure reinvestment program that eventually totalled $1.3 billion (Frontier Centre 2001). Of that amount, $800 million was invested in infrastructure in the first five years of the reform program (Poulos 1998).

Since 1992, Indianapolis has played host to over 4,000 civic leaders from around the world exploring the fiscal turnaround (Montreal Economic Institute 1999). The intense interest results from the fact that privatization, strictly defined, was not the key goal, but competition. More importantly, the City developed a cooperative relationship with its unionized public employees to advance the fiscal reforms. ***At the heart of the initiative was the realization that public employees were often seen as the scapegoat for the City's financial difficulties, but that blame was misplaced.*** The real problem was the inflexible and monopolistic system that worked "top-down" and over-regulated and over-managed civic employees. Prior to every decision to open a service to competition, the City worked with its employees by providing private consultants to help them prepare bids as they competed against others for the right to continue providing services. The City was generous in accepting recommendations for leaner management and in agreeing to incentive pay and the sharing of savings when contracts were outperformed.

In the beginning of the reforms, municipal workers were quite successful in both lowering costs and winning competitions. Public workers won about 25% of the competitions and split responsibility with the private sector for another 20%. City workers tended to win most labour-intensive bids due to intimate knowledge of the service, while private contractors were more successful with services possessing higher technological or capital intensive components. As the process moved along, public workers increased their success rate to the point where they were winning almost 80% of the competitive municipal contracts while costs to the City were going down and wages and job satisfaction for municipal workers were increasing (Holle 1996). The City noticed drastic reductions in employee absenteeism, accidents, and formal grievances through union representatives.

Many of the reports on the Indianapolis experiment are laudatory. But, there is no such thing as a cost-free policy option. In other words, the trade-offs involved with following the Indianapolis example are not altogether clear. Further, the applicability of Indianapolis to Canadian cities is hampered by at least one important fact - Indianapolis has access to more tax revenue diversity through a local general sales tax that has arguably helped finance a portion of the infrastructure turn-around. At the same time, it is amply evident how that rare combination of political will, leadership, and forward-looking vision can merge to form new approaches to what are quickly becoming old problems.

between public employees and the private and non-profit sectors in an effort to generate incentives that lead to efficiency and productivity. The aim is to lower costs and free up limited tax dollars that can then be pumped into infrastructure.

■ *Advantages:* Numerous studies in Canada, the U.S. and across Europe have shown that introducing competition can yield savings in the range of 15% to 30%, with occasional savings of up to 50% (Bish 2001, Institute for Saskatchewan Enterprise 1990, Walker 1988, Kitchen 1993). These savings are not generally driven by lower wages or non-unionized employees, but rather, from increased employee productivity, technology, innovation, better use of capital assets, and leaner and more experienced management (Kitchen 1993, Trebilcock 1994, Institute for Saskatchewan Enterprise 1990, Walker 1988). Even though private firms must pay taxes, make a profit, and must borrow at higher rates, the efficiency gains are often so substantial that it more than compensates for these cost disadvantages.

■ *Disadvantages:* Competition is not a panacea because only those services where costs can be determined, performance standards established, and outputs accurately measured are good candidates (Kitchen 1993, Trebilcock 1994). Further, translating theory into practice can be difficult and a truly competitive environment needs to be sustained over the long-term. Regular bidding for the rights to deliver a service is meaningless if a small group of public or private contractors consistently win bids because they have consolidated control. Service quality, monitoring, contract administration, failed service contracts, price rigging, "sweetheart" deals, and corruption are all risks that must be contended with (Oakerson 1999).

■ *Moving forward:* Many citizens continue to hold onto the notion that only public provision can ensure service quality despite a myriad of research suggesting otherwise (Parsons 1994, Institute for Saskatchewan Enterprise 1990, Walker 1988, Pirie 1987). Public sector unions can also be resistant due to the fear of lay-offs, wage reductions, or the elimination of benefits, and public sector managers often oppose the change as well. As such, many cities commit to a no lay-off policy, insist that any successful private firms accept current employees, and agree to move displaced managers to different aspects of a city's operation (Walker 1988, Institute for Saskatchewan Enterprise 1990, Trebilcock 1994). Ensuring that public workers can effectively bid on contracts has worked well in other jurisdictions, particularly when coupled with a sharing of the costs savings as a bonus. Cities need to communicate that the search for better and more cost effective civic services is the most important priority, and should begin with services that offer the most potential. As successes build and expertise is gained, a solid foundation is built for future successes (Trebilcock 1994). Most experts advise a long-term, programmatic, and incremental approach (Pirie 1987). Part of the learning is simply in the doing, and the specific strategies do require practice.

4. Public-Private Partnerships

The sheer size of infrastructure deficits and debt in Canada pretty much guarantees an increased role for the private sector in many aspects of municipal infrastructure. The public-private partnership model (PPPs) is becoming increasingly popular both in Europe and the U.S., and will likely move ahead in Canada as well. The debate over the merits of PPPs is ongoing in Canada, and at times it is difficult to sort out the full range of issues involved.

PPPs are essentially an arrangement between a government or some other public sector body and a private sector party that results in the private sector providing infrastructure or services that are traditionally delivered by the public sector. A key element of PPPs is a transfer of risk from the public partner to the private sector partner (AUMA 2002). PPPs include different combinations of the following: design, finance, build, operate, maintain, own, transfer, lease, develop, and buy (Allan 1999). The particular advantages and disadvantages of any PPP is highly dependent on which of the above factors are involved.

■ *Advantages:* PPPs have a number of advantages including improved service levels, increased operating efficiency, decreased implementation time, and access to a wider range of innovative financing tools such as revenue bonds, zero coupon bonds, and public lease revenue bonds. PPPs typically access previously unavailable credit that can be guaranteed only if the project goes ahead and results in the creation of a new revenue stream – one that would be unavailable if the project did not proceed. PPPs often result in improvements in assessing and allocating the risks of a project because the public sector may not always correctly assess risk. Most important, PPPs can attract industry expertise and innovative technology to infrastructure projects and services.

In short, PPPs allow cities to spread the benefits and risks of building their cities by employing private capital and expertise, which can result in savings, a lower public investment that frees up resources for investment elsewhere, and results in the

completion of specific infrastructure projects that would simply not go ahead without private participation. The private sector benefits from a project backed by government and realizes a reasonable return on its investment.

■ *Disadvantages.* Taxpayer accountability can be compromised if PPP agreements are negotiated confidentially. Some PPPs have been noted to result not only in a lack of public consultation, but in corrupt contracting processes and misallocation of risk among the partners. Development spans that are longer than political terms of office have a particular downside for the private partner. More important, governments typically have access to better financing rates than the private sector, which can result in higher overall costs unless the efficiency gains in operations or maintenance offset the interest rate differential (Allan 1999). Because private capital will only flow to projects where the rate of return matches the relative risk, private involvement can result in higher user fees to ensure an appropriate return. While this presents an obvious opportunity for a move toward more rational pricing, it may also be a political liability. Cities have to be willing to make the compromises to attract private partners, and one is ending a preoccupation with subsidized services.

■ *Moving Forward.* Effective and useful partnerships are more than a consultative or collaborative effort. Whether or not the potential of private capital can be harnessed very much depends on creating the conditions that will attract the private sector, including elements of power-sharing and a strong sense of mutual benefit (Seidle 1995). In other words, cities need to be willing to delegate some authority and control to the private sector partner who needs at least some freedom to recoup its investment. In the Canadian context, it is often the private sector that approaches governments to explore a potential partnership, and it is the private interests who request government funding, borrowing, or a loan guarantee. All of this is backwards, and reflects the desire of governments to stay in control as well as their tendency to underestimate the return required by private capital relative to the risks involved.

Many of the potential negatives associated with PPPs can be alleviated with thorough research and organizational procedures. Transparency with the public and the public employment sector is critical, and all requests for proposals (RFPs) should be public. Every effort should be made to ensure that the RFP process is competitive, and where possible, also includes submissions from the public sector (CCPPP 1996). The use of impartial contract auditors throughout the process is one such step in enhancing accountability. Most important, quantitative and comprehensive cost-benefit analyses are imperative in determining feasibility. In the end, cities must ensure that any potential PPP is used to further the priorities of the city and that it results in a long-term financial advantage after considering all the costs. Ultimately, any PPP must serve and maintain the public interest.

In many ways, the future is becoming more conducive to PPPs. Recent efforts at municipal legislative reform in some provinces are easing restrictions on the ability of cities to establish joint ventures (Lorinc 2001). With this barrier apparently weakening, the primary roadblock remains the desire to retain control within city hall. This approach needs to be reconsidered if only because

A TAXONOMY OF PPPs

Operate and Maintain: These arrangements benefit from the private partner's expertise by offering the potential for lower operating costs. These PPPs do not transfer significant risk to the private sector partner.

Lease and Operate: These PPPs also benefit from the prospect of lower operating costs, but they do require a guaranteed revenue stream for the private partner to realize a return. Service regulation and price caps may be necessary.

Design and Build: These PPPs create room for innovation and savings via competition for construction and they do transfer some risk to the private partner. Operating costs, however, are less of a factor.

Build and Transfer: These PPPs occur when a developer owns the land and provides infrastructure that is eventually transferred to the public partner.

Design, Build, and Operate: These PPPS are often called turnkey operations and are the most complex. The intent is to minimize operating costs while still having access to lower municipal financing rates.

Design, Build, Finance, Operate, and Transfer: These PPPs allocate significant risk to the private partner who transfers the project back to the public partner after a period in which a return has been earned on the initial investment. A guaranteed revenue stream in the form of tolls or user fees are imperative for these PPPS.

Design, Build, Finance, and Lease: These types of PPPs involve the government leasing from the private partner that designs, builds, and finances a project. Such PPPs are helpful when a public partner does not have adequate access to financing.

joint development agreements through public-private partnerships are reinvesting in urban infrastructure, revitalizing downtown cores, and rebuilding harbour fronts the world over (Lorinc 2001). Further, PPPs may be able to better access a new and emerging source of capital in the form of pension funds. Recent turmoil in the financial markets has seen a number of pension funds losing billions of dollars, but their real estate and infrastructure holdings are earning a return. Some funds are reporting that they are exhausting their real estate options and are indeed looking to infrastructure as a reasonable and reliable alternative (Alexander 2002).

5. New Tax Tools and Tax-Sharing

Much of the debate over systemic municipal finance reform in Canada is currently dedicated to the potential of a more diverse tax mix to address concerns with a singular over-reliance on the property tax. Fuelling the debate is a clear recognition that most of Canada's competitor cities, whether in Europe, Asia, or the U.S., have significantly greater access to a wider range of taxes, including general local sales taxes, selective sales taxes on specific items, motor vehicle taxes and fees, business taxes, as well as broader tax-sharing arrangements with their national, state, or provincial governments (Vander Ploeg 2002c). This is not to say that a drastic increase in municipal taxation is the silver bullet to the infrastructure problem. It is not. However, a more diverse tax system carries specific advantages that directly address some of the most important drivers of infrastructure deficits.

■ *Advantages:* An expanded set of revenue levers that includes local sales taxes or more comprehensive tax-sharing based on points of personal and corporate incomes taxes would yield better growth in municipal revenues. With these taxes, cities would be able to access a larger portion of the economic growth occurring within the local region. These taxes grow based on the inherent vitality of a broader tax base and therefore relieve cities of the need to make the politically difficult decision of increasing property tax rates. Better revenue growth can also be leveraged with modest amounts of debt to increase infrastructure investment. Ultimately, it is difficult to argue that large cities benefit from a singular dependence on the property tax if only because these taxes can lag population and economic growth, and more importantly, they are the tax tool least able to capture revenue from non-residents who nonetheless impose a significant load on municipal infrastructure.

INTERNATIONAL PPPs

Portugal: The 12 km *Vasco da Gama Bridge* is a $1 billion (US) crossing of the Tagus River in Lisbon, Portugal. The partners are the Government of Portugal, the EU, and a group of private investors who are helping finance, construct, and operate the new bridge in exchange for the right to collect tolls. The bridge opened in 1998 and projected revenues have exceeded forecasts. The project's success has prompted the EU to adopt new policies encouraging the use of PPPs to better maximize the use of EU grants.

Colorado: The E-470 is a 48 mile, four lane toll road circling the Denver metro area. The tollway was financed entirely by private enterprise and the E-470 Public Highway Authority. Future toll revenues were used to back bonds totalling some $722 million. The E-470 is setting the standard for the construction of a new generation of urban roadways.

Britain: In 1990, the UK Department of Transport tendered out a new crossing of the Severn River between England and Wales. An existing toll bridge was transferred to the successful bidder in exchange for building a new crossing. The Severn River Crossing Society won the bid. Construction of the new five km bridge, at a cost of $986 million (US), was financed by income from the existing bridge and debentures.

Australia: One of the world's most ambitious PPP transportation projects has taken place in the State of Victoria. The Melbourne City Link Authority was established in 1994 to oversee construction of a privately funded road system running through the centre of the city. A 34 year concession contract worth $1.25 billion (US) was awarded to a private consortium. Construction of the 22 km roadway started in 1996, and features electronic traffic management systems and automated toll collection transponders. As of May 2000, over 520,000 transponders have been issued and 340,000 vehicles are accommodated on the system daily.

California: A three tunnel system through the Santa Ana Mountains with a combined distance of almost 36 miles has been proposed to link two interstates in California. The Riverside-Orange-County Link (ROC Link) would see one tunnel with two eastbound lanes for cars, and another tunnel for westbound vehicles. Running under each tunnel will be fibre optic lines and a high voltage electricity line. The third tunnel will be dedicated for east and west bound truck traffic on a lower deck, with a light rail transit system on the upper deck. Underneath the truck deck will run a water pipeline. The project is anticipated to cost $3 billion (US) and will not use any tax dollars. Tolls and user fees collected are projected at some $305 million annually.

SOURCE: www.innovativefinance.com

LOCAL TAX REFORM: Winnipeg's "New" Deal

The most interesting effort to re-think municipal finance in recent years was the City of Winnipeg's proposal for a "New Deal", announced in September 2003. The New Deal proposed a 30% to 50% reduction in property taxes in exchange for increased user fees and the right to levy new taxes on general retail sales, gasoline, and liquor. The idea behind the New Deal was to build a more dynamic, innovative city that would be attractive to investors and encourage young people to stay. The objective was to change the financial tools available to Winnipeg, use them to create new incentives, increase overall annual revenues, and ensure that visitors and those living outside Winnipeg also pay when they use the city to work, shop, or recreate (Winnipeg 2003c).

The New Deal was not directly aimed at fixing streets or repairing watermains, but it did have important implications for infrastructure. For example, the City aimed to increase the ties between infrastructure use and infrastructure financing through a dedicated fuel tax and increased water service fees. The City also hoped that the New Deal would ultimately result in less demand for infrastructure by promoting increased urban density and more transit use, as well as using better pricing for water services to reduce demand. Indeed, the City's argument against the "Old Deal" (the status quo) was in part based on infrastructure needs. Under the Old Deal, the City stated that property taxes would need to go up by more than 50% to pay for needed improvements to streets, bridges, sewers, and water mains (Winnipeg 2003b).

The primary proposal is presented below. The City did not propose a single New Deal, but rather a series of ideas for discussion. The City ran a large-scale public consultation process to debate the ideas, and the insights gained through this process are now being used to develop a refined New Deal. Nationally, urban analysts and commentators praised the New Deal. In the *Globe and Mail*, Paul Sullivan captured this sentiment when he wrote that the New Deal would result in "the transformation of Winnipeg from one of the coldest cities in Canada to one of the coolest."

THE "OLD" DEAL vs. THE "NEW" DEAL
(All amounts in Millions of $)

	OLD DEAL	NEW DEAL
Residential Property Tax	$241.2	$120.9
Commercial Property Tax	$134.0	$129.6
Business Tax	$62.4	$0.0
Land Drainage Levies	$18.6	$14.1
Natural Gas and Electricity Tax	$14.7	$55.6
Water & Sewer Frontage Levies	$6.9	$0.0
Local Improvement Levies	$1.5	$1.4
City Sales Tax	$0.0	$127.7
City Fuel Tax	$0.0	$99.6
Road Frontage Levy	$0.0	$36.0
City Liquor Tax	$0.0	$15.7
City Hotel Tax	$0.0	$3.2
City Amusement Tax	$3.4	$0.0
Provincial Income Tax Sharing	$47.1	$99.7
Provincial Grants	$95.4	$0.0
Federal Capital Grants	$7.5	$0.0
Environmental Service Fees	$148.3	$184.9
General User Fees	$93.2	$73.2
Licenses and Fines	$33.8	$49.3
911 Telephone Fee	$0.0	$4.8
Other Service Revenue	$7.4	$7.9
Manitoba Hydro Payment	$25.0	$20.7
Interest Earnings	$18.5	$18.5
Eliminate Paying GST	$0.0	$6.5
Savings, Private Funding, Other	$7.1	$17.1
TOTAL REVENUE	**$966.0**	**$1,086.4**

However, the Winnipeg public's receptivity to the New Deal was more mixed. Residents expressed concerns about new municipal taxes, arguing that they are already overtaxed. In addition, many residents and citizen groups expressed concern that shifting away from a property tax to a sales tax and increasing a range of user fees would hurt low-income families, young people, and the elderly. A number of city councillors also stated their opposition.

The New Deal received a major blow in late November 2003, only two months after it was announced. Manitoba Premier Gary Doer stated that the Province would not raise the sales tax in Winnipeg, nor would it grant the City authority to implement its own sales tax (Welch 2003). As the sales tax was a major plank of the New Deal, this provincial position has left the City rethinking its strategy.

It remains to be seen what will happen with any "new" New Deal in Winnipeg. However, the experience to date has demonstrated a number of important lessons. First, the public is prepared to become engaged – indeed very engaged – in conversations about municipal finance issues. Second, the public is at least somewhat receptive to the idea that cities need new mechanisms and structures for dealing with infrastructure problems. And third, the public may not yet be ready to consider extremely bold changes in municipal finance. As such, municipal governments may have to consider more incremental approaches to achieve their goals.

SOURCES: City of Winnipeg. 2003a. *New Deal Power Point Presentation* (www.winnipeg.ca/newdeal). Consulted December 10, 2003. City of Winnipeg. 2003b. *New Times. New Ideas. New Deal* (www.winnipeg.ca/newdeal). Fall 2003. City of Winnipeg. 2003c. *What is a New Deal?* (www.winnipeg.ca). Consulted December 3, 2003. Sullivan, Paul. 2003. The real deal on the new deal for cities. *Globe and Mail*. September 30, 2003, A15. Welch, Mary Agnes. 2003. New deal dead: Mayor. *Winnipeg Free Press*. November 27, 2003, A1-2.

■ *Disadvantages:* Allowing cities wider access to sales taxes could create new and unwanted distortions such as a shift in consumption patterns as shopping gravitates to non-taxing jurisdictions. These problems can be overcome if the taxes are levied by all municipalities across a city-region with minimal tax rate differentials, but such alignment would likely be difficult to achieve. The typical solution is for these taxes to be set and levied province-wide with amounts rebated to cities. While this would overcome some of the distortions, it could also lead to problems with accountability. More important yet is the fact that elastic taxes are more vulnerable to the ups and downs of the economy. Municipal budgets that are heavily reliant on these types of taxes could find themselves with severe revenue shortfalls during economic downturns.

■ *Moving Forward.* To move a tax reform agenda forward, cities have three options. First, cities can simply argue that extra taxes are needed. While this argument is the easiest to frame, this really amounts to an increase in effective taxation. The prospect of a higher effective tax burden can hardly be considered the appropriate response. Second, cities could argue for a transfer of taxes from the federal government or their respective provincial governments, avoiding an increase in taxation. But again, this ignores the fact that the federal government is already coming under pressure to increase provincial transfers for health care and education. Most provinces are also fiscally stressed. The competition for scarce tax dollars is indeed fierce. Third, cities could sidestep objections over a tax increase or pressuring other governments' budgets by agreeing to sacrifice a small amount of their revenue now as an investment toward better tax tools in the future.

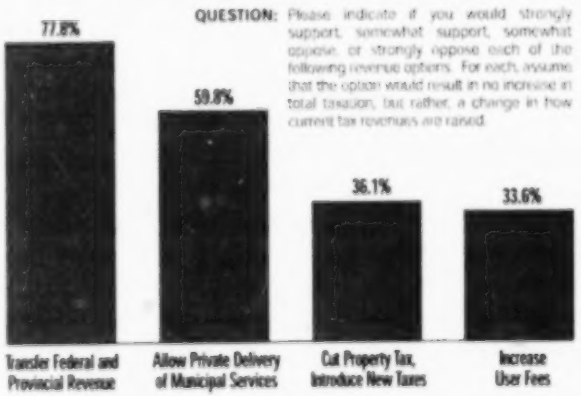
For example, a city could commit to a one-time reduction in their property taxes if that stimulated provincial agreement for new taxing authority, whether a local sales tax or some new tax-sharing scheme. To ensure a "win-win" for taxpayers, the province, and the cities, the new tax revenue would not have to make up the entire difference in lost revenue. The short-term revenue loss in the operating budget could be covered by reducing the amount of "pay-as-you-go" transferred to capital. Because many western Canadian cities have relatively low amounts of tax-supported debt, some modest borrowing in the short-term could be taken on to support infrastructure until the revenue generated by the new tax tools closes the gap in the long-term (Vander Ploeg 2002c). In effect, cities would be offering a tax cut – making an investment in lost revenue now to secure a more diverse set of tax tools with much better revenue-generating capacity in the future.

SUMMARY: The ideas of a renewed focus on core priorities and responsibilities, correct pricing, competitive service delivery, public-private partnerships, and increased diversity in the local tax system are still on the table and probably offer the most sustainable answer to the infrastructure issue. But change of this magnitude is never easy. Interests supporting the status quo are often firmly entrenched, and require more than just a little heavy lifting, particularly considering recent opinion surveys that have tapped the views of Canadians on these alternatives.

TESTING THE WATERS: Public Opinion on Systemic Reform

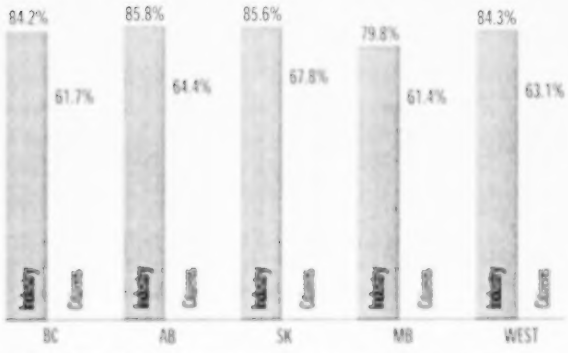
The Canada West Foundation's *Looking West 2003* survey provides valuable insights on how the public might respond to a variety of the options discussed above (Berdahl 2003). The data indicate that western Canadians are not equally receptive to all of the various financing options. For example, support is highest for transferring federal and provincial tax dollars to local governments. Almost 80% of western Canadians support this idea *(Figure 16)*. Private delivery of some municipal services is the second most popular option with almost 60% of western Canadians in favour. However, support for tax shifting, that is, cutting property taxes and introducing new local taxes, was quite low. Support for increasing user fees was the least popular alternative. Simply put, while western Canadians may feel that their municipal governments need more revenue, they are not highly receptive to many of the options for generating that revenue.

FIGURE 16: Support for General Local Finance Options
(% of Western Canadians Strongly or Somewhat Agreeing)


QUESTION: Please indicate if you would strongly support, somewhat support, somewhat oppose, or strongly oppose each of the following revenue options. For each, assume that the option would result in no increase in total taxation, but rather, a change in how current tax revenues are raised.
77.8%
59.8%
36.1%
33.6%
Transfer Federal and Provincial Revenue
Allow Private Delivery of Municipal Services
Cut Property Tax, Introduce New Taxes
Increase User Fees

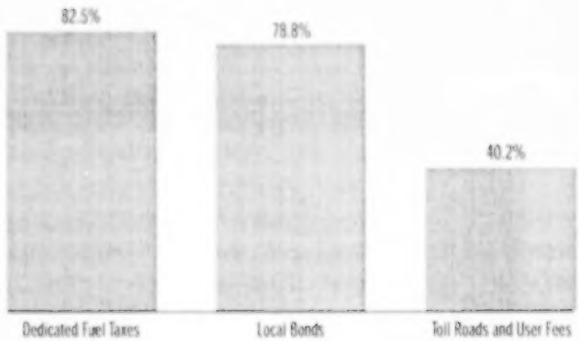
SOURCE: Berdahl, Loleen. 2003. *Looking West 2003: A Survey of Western Canadians*

FIGURE 17: Charging Users the Full Cost of Water
(% of Western Canadians Strongly or Somewhat Agreeing)



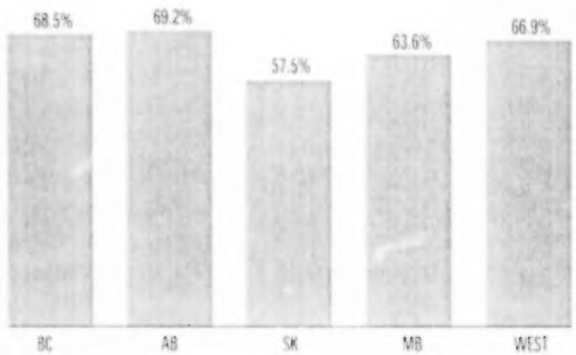
SOURCE: Ekos Research Associates, 2003. *Looking West 2003: A Survey of Western Canadians*

FIGURE 18: Support for Transportation Financing Options
(% of Western Canadians Strongly or Somewhat Agreeing)



SOURCE: Ekos Research Associates, 2003. *Looking West 2003: A Survey of Western Canadians*

FIGURE 19: Agree that Sprawl Should be Reduced
(% of Western Canadians Strongly or Somewhat Agreeing)



SOURCE: Ekos Research Associates, 2003. *Looking West 2003: A Survey of Western Canadians*

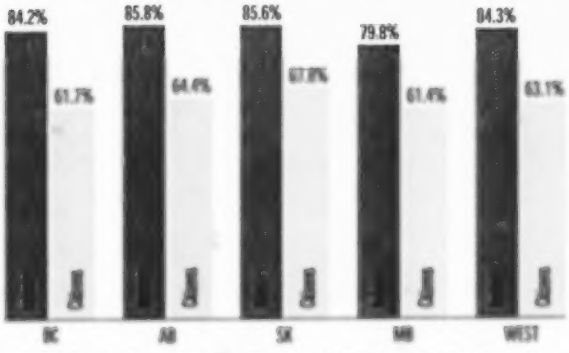
The public may, however, be receptive to increasing prices on certain services, particularly if the motivation goes beyond mere financial concerns. For example, over six in ten western Canadians support charging citizens the full cost of water in order to conserve the resource *(Figure 17)*. Over eight in ten support charging industry the full cost. These mixed findings suggest that the public may be open to increased user fees, but that support varies according to the service being considered.

The *Looking West* survey also asked western Canadians to comment about a number of specific financing options for transportation infrastructure *(Figure 18)*. The option of a dedicated fuel tax received considerable support. This high level of support is noteworthy, particularly given recent musings and public statements concerning a potential sharing of federal fuel tax revenues with cities. Support was also high for "allowing Canadians to personally invest in local infrastructure projects by buying stocks or bonds." Support dropped dramatically, however, when it came to the question of using toll roads or other user fee models to finance transportation systems.

There is one final option to explore. This alternative is not a specific financing tool for addressing infrastructure, but one that has no small impact – reducing urban sprawl. If the physical footprint of cities can be reduced, then the need to lay out large sums for infrastructure can be lowered. In general, western Canadians are quite supportive of reducing sprawl. Almost two-thirds of all western Canadians in the *Looking West* survey favoured this policy *(Figure 19)*. Support was highest in Alberta, the one western province currently experiencing the most population growth. Support was also quite strong in British Columbia, but less so in Saskatchewan and Manitoba. The interesting irony here, of course, is the low levels of support registered for specific options such as increased user fees and road tolls that could go a long way in helping combat sprawl.

FIGURE 17: Charging Users the Full Cost of Water
(% of Western Canadians Strongly or Somewhat Agreeing)

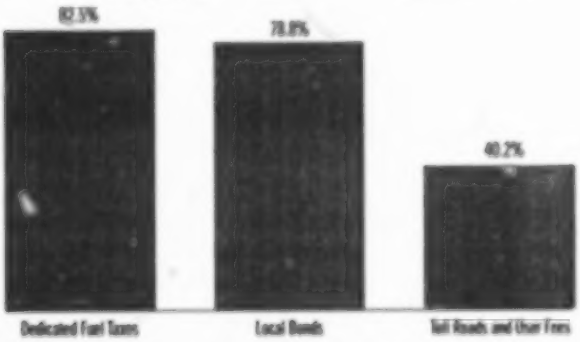
QUESTION: To conserve water, governments should charge [industries and citizens] the full cost of the water they use.



SOURCE: Bardati, Loteen. 2003. *Looking West 2003: A Survey of Western Canadians*

FIGURE 18: Support for Transportation Financing Options
(% of Western Canadians Strongly or Somewhat Agreeing)

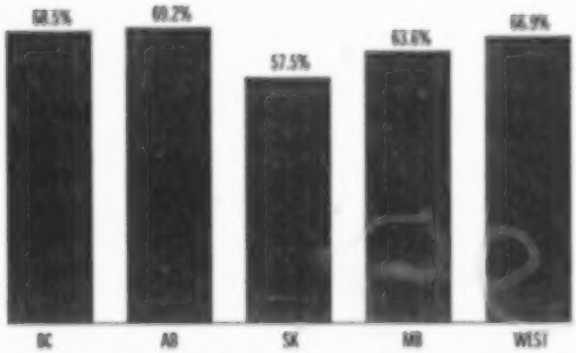
QUESTION: As governments look to how they are going to pay for transportation infrastructure in the years ahead, how would you rate the following financing options?



SOURCE: Bardati, Loteen. 2003. *Looking West 2003: A Survey of Western Canadians*

FIGURE 19: Agree that Sprawl Should be Reduced
(% of Western Canadians Strongly or Somewhat Agreeing)

QUESTION: As [province's] cities grow in population, efforts should be made to reduce urban sprawl.



SOURCE: Bardati, Loteen. 2003. *Looking West 2003: A Survey of Western Canadians*

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SUMMARY: The state of public opinion presents governments with a significant hurdle in pursuing systemic reform. While it is not entirely clear how these hurdles can be overcome, attempts are being made. The Federation of Canadian Municipalities (FCM) recently launched its "Bridging the Gap" initiative, which is a grassroots advocacy campaign designed to capture the attention of individual Canadians to the importance of rebuilding roads, bridges, and transportation systems. A similar initiative entitled "Sustaining Prosperity Together" is also underway at the Alberta Urban Municipalities Association (AUMA). Such efforts will have to continue if public opinion on the importance of municipal fiscal reform is to move forward.

CONCLUSION

Much of the discussion in this paper clearly centers around the important question of "who is to pay" for the needed infrastructure in our cities. Is it the current citizens of the city or should future citizens also contribute? Should current residents of the city-region be paying? Should all taxpayers in the province and right across the country be required to chip in through significant and ongoing support from provincial and federal governments? Or, should the costs land on everyone and anyone who uses the services and infrastructure of western Canada's cities to earn a living, recreate, or shop, regardless of where they live? While one could easily answer "yes" to each of these questions, it is arguably the latter approach that appears to be the most equitable. And this, of course, necessitates a focus on those options and alternatives that will allow all those who draw a benefit from well-financed cities with quality infrastructure to pay their fair share.

The options here are very wide ranging and present a lot of ideas for local governments to pursue. But their federal and provincial counterparts must resist any notion that city governments can tackle the issue alone. First, it is unlikely that long-term and sustainable solutions to the infrastructure issue can be met by cities acting under the limited resources of the current legislative and fiscal regime. Traditional sources of capital financing do not adequately address all the significant drivers of infrastructure deficits. Second, innovating with these sources may help, but this may require provincial and federal approval, and they too may be insufficient to address some of the roots of the problem.

The notion of systemic reform, however, presents opportunities to implement strategies that can counteract current incentives, provide better revenue-generating capacity, allow cities to recoup the costs of providing services to outsiders, produce savings in current operations, and give cities the ability to capture a portion of the economic activity occurring in their boundaries. Much of the municipal infrastructure issue is directly related to a sustained and significant trend toward increased urbanization in Canada. This has resulted in substantial urban population and economic growth, but cities are unable to tap that growth sufficiently to respond to it. This, coupled with the sheer size of the infrastructure problem, indicates that all governments need to break out of the status quo. That implies a number of things, from attracting private participation in infrastructure to assessing virtually all aspects of municipal operations, including which services to provide and how to price and even deliver them.

At the same time, the final message of this study should not be reduced to simply finding more funds for municipal infrastructure – whether that be new money as a result of a different tax system or saved money that results from competitive service delivery. Money alone will not resolve the problem in a sustainable fashion. In other words, money is a necessary condition, but it may not be a sufficient condition.

This study stresses that moving forward on the municipal infrastructure issue requires a hard look at a mix of options that specifically target the main drivers of the problem. Simply put, finding new financing sources to address the shortfall in infrastructure funding is a primary goal, but a complementary objective is to also address the full range of non-financial options as well, whether that be increasing our understanding of infrastructure issues broadly speaking, conducting research and analysis, developing inventories of municipal assets, surveying their condition and the investment needed, and employing better and more comprehensive infrastructure governance and asset management techniques in general. Reversing incentives that artificially increase the demand for infrastructure and limiting the effects of urban sprawl and suburban and metro-adjacent development are critical. The importance of these goals, whether financial or non-financial, should not be underestimated.

Increasing understanding of infrastructure is part of the solution, and this also links to the current state of public opinion on the issue, which has no small impact on any attempt at systemic reform. Governments, whether federal, provincial, or municipal, face a significant hurdle in implementing some of the alternatives. For example, the public is very cautious about any new municipal tax tools or across the board increases in user fees. To move forward, the current lack of understanding about the importance of public infrastructure to Canada' economic and social well-being must be addressed. Canadians do not understand the connection between infrastructure and the future economic prosperity needed to sustain the nation's social programs, and as such, they are less likely to flag infrastructure as a high priority.

This is no time to be timid. Even if Canadians remain somewhat shy or skeptical of the alternatives needed to advance long-term and sustainable solutions, the journey down that road must begin. If we fail here, the road travelled in the future will only get rougher. Eventually, Canadians will find the road so littered with potholes that it is impassable. And, that is one option none of us should pursue. ■

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